EXERCISES FOR "METHODS OF TEACHING IN HIGH SCHOOLS"

PARKER

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BOOKS ON EDUCATION

BY

SAMUEL CHESTER PARKER

Professor of Educational Methods in
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WHY NOT STUDY LIKE THIS?

WHY IS THIS BETTER, EVEN THOUGH PRIM AND UNROMANTIC?

EXERCISES FOR "METHODS OF TEACHING IN HIGH SCHOOLS"

A PROBLEM-SOLVING METHOD IN A SOCIAL SCIENCE

BY

SAMUEL CHESTER PARKER

PROFESSOR OF EDUCATIONAL METHODS IN
THE UNIVERSITY OF CHICAGO

REVISED EDITION

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PREFACE

Relation to the textbook "Methods of Teaching in High Schools." — These exercises are intended to provide material for a problem-solving method of using the author's "Methods of Teaching in High Schools." Thus it is one example of the recent movement to organize problem-solving methods in the teaching of the social sciences, of which education is one. The exercises should give the students practice in interpreting the discussions in the textbook and in actually applying these to the solution of real problems of teaching. For a description of the standards which the author has endeavored to follow in making the exercises, see page E10Q, below, exercise 10.

Explanation of arrangement of chapters. — Two types of chapters are contained in this book; namely, chapters of *exercises* and chapters containing *directions* for teaching the course and making *special assignments for papers* to be prepared by the students. The chapters of exercises are numbered to correspond to the chapters in the author's textbook on "Methods of Teaching in High Schools." The other chapters are designated by capital letters (for example, Chapter A, Chapter B) and are distributed through the text at the points where they will be most effective and helpful when encountered in the progress of the course. The instructor should study carefully all of these lettered chapters before beginning to teach the course so as to get a complete perspective view of its plan and organization.

Page references. — In the "Exercises" the letter E (initial of "Exercises") has been placed before the numbers of all the pages in order to distinguish them from the pages in the

text proper. Most of the references are to the latter, but when the reader encounters such a reference as "page E56" he will feel immediately that this refers to page E56 in the "Exercises."

Rough map of the course. — A general idea of the assignments arranged in the book may be obtained from the following rough map of them:

I. *Daily discussions* of carefully assigned *exercises.* See page E14.

II. *Observations* by the whole class of excellent *illustrative lessons.* Three of these observations are suggested on pages E34, E63, and E82. Others should also be arranged.

III. *Two lesson plans* by students to be based on stenographic reports of lessons contained in the book. See pages E115 and E130.

IV. *Three long papers* distributed at intervals as follows:

1. Evaluation of selected recent *high-school textbooks.* See page E36.

2. Summary of reading of practical articles in recent *periodicals.* See page E71.

3. A concluding *summary paper* entitled "*I shall Try* to Apply the Following Ideas in my Teaching." See page E199.

V. *A final examination* on one hundred and fifty *selected* pages. See page E232.

Class discussions with books open. — In the class discussions of exercises noted in paragraph I, above, the students will have both the "Exercises" and the text proper open before them for frequent cross reference. It will be found that these cross references require the most careful analytical study of both books. In order to save time in connection with these references a narrow bookmark may be inserted deep in the inner margin, at the principal place in each book near which the discussion centers. A narrow ribbon or narrow strip of paper cut from the edge of a flyleaf will serve this purpose.

Acknowledgments. — The idea of preparing such an exercise book was derived from Professor E. L. Thorndike's pioneer work in this field in his "Principles of Teaching" (1907). Many helpful suggestions have been received from Professors W. S. Gray, R. L. Lyman, and Mr. J. F. Gonnelly of the College of Education of The University of Chicago. From the teaching and teachers in the High School of The University of Chicago much of the illustrative material used in the exercises has been derived. I am indebted to the dissertation by Miss Romiett Stevens of Columbia University, on "The Question in Instruction," for portions of two stenographic reports of lessons, to Mr. J. M. McConnel of the North-East High School of Detroit for an excellent series of problem-solving lessons in a social science, and to Superintendent I. M. Allen of Springfield, Illinois, for a stenographic report of a supervised-study lesson. I have derived many suggestions and considerable material from the work of students in my classes in methods of teaching in high schools.

S. C. PARKER

PREFACE TO THE REVISED EDITION

The publication of a revised edition of the author's "Methods of Teaching in High Schools" suggests the propriety of making at this time certain changes in these "Exercises" which experience indicates as desirable. The improvements will be found in a number of exercises in different parts of the book. Chapter G has been almost entirely rewritten. The original plan and purpose of the book have been in no wise modified.

S. C. PARKER

CONTENTS

The lettered chapters contain directions to instructors and students. The chapters of exercises are numbered to correspond with the chapters in the textbook "Methods of Teaching in High Schools"

PAGE

CHAPTER A. Be a Model of Good Teaching E3

CHAPTER B. Profitable Program for First Class Meeting . E7

Exercises on Chapter I. Introduction — Scope of the Book E10

CHAPTER C. Assigning and Studying Exercises E14

Exercises on Chapter II. Broadening Purposes of High-School Instruction E17

CHAPTER D. Short Written Tests E23

CHAPTER E. Review Discussions E26

Exercises on Chapter III. Economy in Classroom Management E28

CHAPTER F. First Observation Assignment E34

CHAPTER G. Evaluating High-School Textbooks E36

Exercises on Chapter IV. The Selection and Arrangement of Subject Matter E40

CHAPTER H. Maintain Apparent Coherence E52

CHAPTER I. Adapt to Length of Course E54

PAGE

Exercises on Chapter V. Types of Learning involved in High-School Subjects E55

Exercises on Chapter VI. Acquiring Motor Control . . E56

Exercises on Chapter VII. Associating Symbols and Meanings: Learning a Foreign Vocabulary E63

CHAPTER J. Periodical Reading on Teaching Special Subjects E71

CHAPTER K. Wayside Suggestions to the Instructor . . E73

Exercises on Chapter VIII. Practice or Drill E74

Exercises on Chapter IX. Reflective Thinking E82

Section I. Problem-Solving E82

Section II. Acquiring Abstract and General Meanings . . E97

CHAPTER L. Anticipate Lesson Planning E115

Exercises on Chapter X. Forming Habits of Harmless Enjoyment E117

CHAPTER M. Specialized Individual Observations . . . E141

Exercises on Chapter XI. Training in Expression . . . E142

CHAPTER N. Outline of the System: Get the Transition . E156

Exercises on Chapter XII. Self-Activity and Apperception E158

Exercises on Chapter XIII. Influence of Age on Learning E175

Exercises on Chapter XIV. Interests, the Basis of Economy in Learning E177

CHAPTER O. Be an Artist-Teacher E188

Exercises on Chapter XV. Adapting Class Instruction to Differences in Capacity E190

PAGE

CHAPTER P. Condense into a Usable System E198

Exercises on Chapter XVI. Supervised Study E203

Exercises on Chapter XVII. The Use of Books E216

Exercises on Chapter XVIII. Conversational Methods . . E229

CHAPTER Q. Final Examination on Selected Parts . . . E232

Exercises on Chapter XIX. Laboratory Methods . . . E235

Exercises on Chapter XX. The Art of Questioning . . . E241

Exercises on Chapter XXI. Practice Teaching and Lesson Planning E243

Exercises on Chapter XXII. Measuring the Results of Teaching E245

CHAPTER R. The Last Word: Public Service and the Gospel of Recreation E251

INDEX E259

EXERCISES FOR "METHODS OF TEACHING IN HIGH SCHOOLS"

EXERCISES FOR "METHODS OF TEACHING IN HIGH SCHOOLS"

CHAPTER A[1]

BE A MODEL OF GOOD TEACHING

(To be read by instructor and students)

A method course should be a model of good teaching. — A course in methods of teaching should exemplify in itself the best methods of teaching, thus serving as a model to the prospective teachers in the course and illustrating the fundamental principles of teaching which it presents. This exercise book is intended to aid instructors who are using the author's "Methods of Teaching in High Schools" as a textbook to conduct their courses most effectively according to these ideas. The principles of teaching which it aims to exemplify are the following:

1. **Practically worth while.** — The course should seem *worth while* to members of the class. Since this is a vocational course, it should seem *practically* worth while; that is, it should appear to *each* student to have definite practical value *for him.*

2. **Interesting.** — The course should *interest the students.* The *practical appeal* suggested in the preceding paragraph

[1] This book contains two types of chapters: those designated by letters contain directions to instructors and students; those designated by Roman numerals contain exercises paralleling the chapters with corresponding numbers in the author's "Methods of Teaching in High Schools."

provides one of the surest bases for interest. However, a course may be practical and still be uninteresting drudgery. Hence other bases of interest should be provided. Among these are the following:

(*a*) Abundance of *real examples*. For most students abstractness is deadening; reality gives life to the course.

(*b*) Appeals to *curiosity* and *mental activity* through exercises which are phrased as problems.

(*c*) Enjoyment of the *humor* in class situations. Three laughs during a class hour may relieve wonderfully the overwhelming serious tension or ennui that often comes from a prolonged systematic discussion. A moment of relaxation after ten minutes of concentrated attention is helpful to continued attention.

3. **Individual differences.**— The course should *provide for individual differences* in the *interests* and *capacities* of members of the class. This principle is especially important in a general-method course for prospective high-school teachers, since their *practical interests vary* so much with the subjects they expect to teach. Any large class of college juniors and seniors in a method course will be sure to contain some students who are interested in only one of the following groups of subjects: (*a*) literature and languages; (*b*) history and other social sciences; (*c*) mathematics and sciences; (*d*) fine and industrial arts. As a consequence, a discussion of methods of teaching foreign languages may be of practical interest to only part of the class, while a discussion of laboratory methods or training in expression may interest other parts. Prospective high-school teachers, however, should realize that in their first teaching positions they may have to teach subjects in which they have had no special interest in college. Even with this corrective, the instructor in the method course will secure better results if he *differentiates his assignments with reference to the present specialized interests of his students.*

Differences in the *capacities* of his students should lead the instructor to minimize abstract assignments for members of the class who have little capacity for abstractions; to reduce the amount of work expected of slow students; and to suggest extra assignments for ambitious capable members of the class who desire further knowledge along certain lines.

4. **Self-activity.** — The course should provide abundant opportunity for *self-activity* by the students in at least two forms, as follows:

(*a*) There should be *reflective interpretation by the students* of the ideas in order *to understand* them.

(*b*) There should be *thoughtful application of these ideas to teaching* situations *by the students*. This practice should *form practical habits* which the student can carry over and utilize in actual teaching situations; that is, the practice should not be simply in elucidating theory but in applying theory as he should apply it when actually engaged as a teacher.

5. **Profitable recitations.** — *Recitations* should provide occasions for the students to *interpret, criticize, supplement, and apply the textbook*. These recitations should commonly be conducted with books open. The recitation is not the place to test the student's preparation, except incidentally. Short written tests should be used to test preparation. Oral memory recitations are futile and a waste of time.

6. **Economy of time.** — *Economy of the student's time* should be obtained by *presenting* to him valuable educational experiences as *expeditiously as possible*. Wherever possible, *avoid* having the student waste a lot of time *searching* for an experience. To this end, observations of high-school teaching should be conveniently and carefully arranged, collections of the best high-school textbooks in all lines should be made easily accessible, and exercises, as a rule, should contain data for problems to be solved instead of asking pupils to search for the data.

7. **Condensed into usable system.** — Finally, the *main points* should be strongly *impressed* upon the student and the entire course *organized* and *condensed* into a workable system of ideas about teaching. Upon completing the course each student should feel that he has mastered these fundamental ideas of method and possesses clear-cut plans for achieving artistic success as a teacher. A number of varied directions and assignments are included by the author to attain this end. The most effective of these is the term paper described below, on page E199, in which the student is required to summarize the ideas that he does expect actually to use when teaching.

Explanation of Page Designations

An E has been inserted before the pages of the Exercises to facilitate distinguishing them from the pages of the "Methods of Teaching in High Schools." When the instructor says "page E6" or the student reads "page E6," the latter will know immediately that this refers to the Exercises, whereas "page 6" refers to the textbook proper.

CHAPTER B

PROFITABLE PROGRAM FOR FIRST CLASS MEETING

(*To be read by instructor and students*)

The first meeting of the class in Methods of Teaching should be used in some profitable manner as described on pages 32–33 of Parker's textbook. Four possibilities are suggested, as follows:

1. **Information about students.** — The instructor may take steps to acquaint himself with the students by distributing mimeographed copies of the information blank printed below on page E9.

2. **Outline of course.** — The instructor should outline the plans for conducting the course, explaining the use of text-book, exercises, informal lecturing, library work, observation, written tests, etc.

In this connection it is well to develop an outline of the topics of the course on the blackboard. For the topics in this outline see the model on page E156 of the exercise book. Some such anticipatory discussions of material to be read are always helpful to students.

Include examples in outline. — The outline should be relieved of abstractness by giving striking examples under each heading; for example, under broadening purposes discuss democratization for two minutes; under economy in management give some examples of large savings in business or classroom management; under the special types of learning indicate which high-school subjects are emphasized in each type; under individual differences show that the

brightest pupil often has half of his time to loaf, etc. These examples may be taken from later discussions in the textbook or they may be original examples from the instructor's experience.

3. **Anticipatory assignment.** — Assign exercises 7–13 on Chapter I and the first two exercises on Chapter II with textbook pages 1–13 and pages 502–505. The student's reading of this material should be anticipated by some discussion. The outline described above anticipates part of it. The discussion of *science versus opinion* may be anticipated by telling the students to note carefully in the quotation from Thorndike on page 504 (which is assigned in exercises 10–13) that *scientific* investigations may be described as follows:

(1) Impartial
(2) Objective
(3) Mathematically precise
(4) Subject to verification by any competent observer
(5) Made by specialized experts

These points should be kept on the blackboard before the class, and the students should be told to consider them in answering exercises 11–13.

In general, the practice of having preparatory class discussions of material in the text before the latter is read might be continued to advantage throughout the course in assigning those *portions* of the book which are *abstract or difficult to understand.* In many places, however, the text is so easily understood that such preliminary discussions are unnecessary.

4. **Initiatory discussion.** — Finally, if any portion of the hour remains, it may be spent to advantage upon a discussion of some of the earlier exercises on Chapter I. These exercises require no outside preparation but serve to initiate in the students the reflective attitude toward teaching which they should maintain in the course.

Information about Students in the Course

The information secured on the following blank will enable the instructor to study the individual interests, needs, and preparation of the students in the course on "Methods of Teaching in High Schools."

1. Name..... 2. Home town.....
3. Number of college credits..... 4. Expect to graduate.....191..
5. Preparing to teach in high school the following subjects (name three).....
6. Courses taken in *department* of education, names or numbers of courses and names of instructors.....
.....
7. Courses taken in psychology with names of instructors.....
.....
8. Courses taken in the theory of teaching individual subjects as English, mathematics, etc.....
.....
9. Experience in observing teaching.....
.....
10. Experience in practice teaching.....
.....
11. Experience in regular teaching (number of years, grades or subjects, place).....
.....
12. Are you *very* timid about participating in class discussion?.....
.....

EXERCISES ON CHAPTER I[1]

INTRODUCTION — SCOPE OF THE BOOK

Initiation by Unprepared Exercises

The first six exercises below raise certain issues which may be taken up for class discussion without preparation and independent of the textbook, and will help to initiate the class in discussing the field of methods of teaching. If the instructor desires to use them on the first day, before the students have obtained their books, they may be written on the blackboard or mimeographed.

1. *Factors in teacher's success.* — What *other* factors than knowledge of subject matter will play a part in determining *your* success as a high-school teacher?

2. *Factors emphasized by different persons.* — Of all these factors (including subject matter) which would *each* of the following persons be most likely to *emphasize*:

(1) The *president* of the board of education or the *superintendent* in a small school system who might employ you?
(2) The ordinary *academic* college *professor* who advises you?
(3) The *professor of education*?

3. *Your own evaluation.* — Which of these factors do *you* consider the most important? Why?

4. *Bearing of this course.* — Which of these factors do you expect this *course* or this *textbook to improve* in you?

5. *Preference for subjects.* — If you were *equally well prepared* in the subject matter of the following subjects

[1] The chapters designated by Roman numerals contain exercises paralleling the chapters with corresponding numbers in the author's "Methods of Teaching in High Schools."

and *equally interested* in them all, which would you *prefer* to teach? Why? (Note that your *preparation* and your *interest* in the subject are *not* to be factors in determining your preference. There must be other reasons.)

English composition	Greek history
English literature	American history
Latin, two years	Chemistry
Mathematics, two years	General science
Civics	Home economics

6. *Ease of success.* — Which of the above subjects can be taught *successfully* with *greatest ease*? Why?

"Opinion" in Education versus a "Science" of Education

The following exercises will assist in getting the class in a "*scientific*" *frame of mind* for class discussions and start some consideration of standards for determining the *reliability of opinions* expressed about teaching.

7. *Rank of authorities.* — (*a*) From your previous studies in education name one American writer on education to whom you would give *first rank.*

(*b*) What is the *basis* of your choice?

(*c*) Name one writer of *much lower rank.*

8. *Relative validity of opinions.* — *Compare* the probable *validity of the opinions* of the writers mentioned in answering exercise 7. Whose opinions are most reliable? *Why?*

9. *Value of knowing source of opinions.* — (*a*) In view of the above discussion, in quoting an opinion about education would it be worth while to know *whose* opinion it is? *Why?*

(*b*) In case of important issues in teaching would you expect college students to *remember whose* opinions they are learning?

(*c*) Would you expect them to remember in case of important discussions in politics? in evolution? in history?

Characteristics of "Scientific" Study

Read pages 502–505.— After reading the paragraph at the middle of page 3 of the textbook, read from the middle of page 502 to the middle of page 505. In the long quotation from Thorndike found there, note that he says that the judgments or conclusions of science may be described as follows:

(1) Impartial
(2) Objective
(3) Mathematically precise
(4) Subject to verification by any competent observer
(5) Made by specialized experts

Note especially what he means by "objective" and "mathematically precise." The following exercises will help to clarify the idea of science versus opinion in education.

10. *Changing opinions to science.*— After reading the assignment noted in the preceding paragraph note below a series of quotations about teaching.

(*a*) Keeping in mind Thorndike's discussion of "objectivity" and "mathematical precision," state in which one of these quotations it would be *easiest* to *remove the statement from the realm of mere opinion to the realm of verified scientific conclusions.*

(*b*) *How* would you *proceed* to do so?

(*c*) In which case would it be *most difficult* to carry out exercise 10 (*a*)? Why?

(*d*) In which case would it *not be easy, but* still quite *possible*? Describe how you would proceed.

QUOTED STATEMENTS TO BE USED IN ANSWERING EXERCISE 10

(1) "Our school courses are not adapted to the average child. The average child cannot keep up with the work as planned, and the slow has even a smaller chance of doing so."

(2) "Our schools as they now exist are better fitted for the girls than for the boys."

(3) "In common with all sciences, training in physics has a moral value. There is . . . a development of conscience to be got from the careful statement of exact laws."

(4) "English is almost the only opportunity available in the secondary school for acquainting pupils with the fundamental laws of art, which are also the laws of moral living."

(5) "The average age of American pupils on entering the secondary school, fourteen, is too high for the best results in foreign-language study . . . the age of ten would be better."

(6) "It is not the school work as such which is injurious to the health of the ordinary adolescent, but he suffers most from the multitude of his *outside* interests."

(7) "The younger pupils in high school adjust themselves more readily to its régime and do the work more successfully than the older pupils."

11. *Scientific method in various subjects.* — *Compare* the *ease* of making objective, mathematically precise, scientific studies in education with the *ease* of making similar studies in some one of the following subjects. Choose a subject in which you have had some experience, and explain.

Chemistry	Biology
Physics	Economics
Geology	Psychology

12. *Parker's text; science or opinion?* — In view of the above discussion and the fact that the use of precise, objective measurement in education is in its infancy (see p. 502), would you expect opinion or science to predominate in Parker's textbook? Explain.

13. *Why is education a snap?* — In view of the above discussion, why are courses in education often considered a "snap" by college students?

CHAPTER C

ASSIGNING AND STUDYING EXERCISES

How to Assign Exercises

Purpose of exercises. — The exercises are intended to provide for *reflective study* of the textbook by the students and to provide for recitations which *interpret*, *supplement*, *criticize*, and *apply* the discussions in the textbook. As a rule, each exercise grows out of some specific topic, paragraph, or sentence in the text, and this relation should be kept in mind in the teaching.

Assign a few specific exercises and require students to discuss them. — In assigning exercises to be studied it is well to observe the following rules:

(*a*) Assign *specific* exercises for a given recitation, each instructor choosing carefully those with which he thinks he can get the best discussions.

(*b*) *Limit the number* to approximately ten for each recitation.

(*c*) Be sure to *require the students* to discuss the exercises assigned for each recitation.

If exercises are assigned indefinitely or in too great numbers, or if the instructor does the discussing, most students will cease to prepare carefully, and the class period will degenerate into a slipshod discussion by students or a lecture by the instructor.

Some unprepared exercises. — In addition to the assigned exercises upon which careful preparation is expected, unassigned exercises may be taken up in class after the assigned exercises have been discussed.

How to Study for Class Discussions

First reading. *Read rapidly, not slowly.* — In reading an assignment in the textbook for the first time, read *rapidly*. This rapid reading can be facilitated by *looking for the main point* or points in each paragraph. The discovery of these points is all that is necessary at first reading. Reliable experimental studies have shown that slow, plodding reading is commonly much less effective than rapid analysis of a paragraph to *lift out its main ideas*.

Underline principal phrases and words. — As the main ideas are discovered, *underline* the principal phrases or words. This helps in two ways; namely, (1) it *aids in concentration of attention at the time* and (2) it provides for an easy, rapid, *effective review later*. As a rule, do not underline whole sentences; for the reader's purpose a part of a sentence is usually more effective than the whole.

Exercises. *Study the exercises and make memoranda of answers.* — After reading the assignment in this rapid *selective* manner, study the exercises assigned, making a memorandum of the main point in each answer on the margin of the exercise book. Often it will be necessary to restudy certain parts of the assignment in the textbook in order to work out the answers to the exercises.

Second reading. *Note headlines and underlined parts.* — Finally, read the assignment again rapidly, noting especially the paragraph headlines and underlined parts. If there are some parts which you do not understand readily, you may either pause to dig out the meaning or make a note to ask the instructor about them.

Conditions. *Arrange favorable physical conditions.* — Be sure to arrange favorable physical conditions for study wherever possible, thus avoiding the distractions that arise from poor light, unnecessary noises, other interesting matters in sight or hearing, etc. (see Frontispiece, above).

Read discussion of study in the textbook.— For a fuller discussion of some of the above suggestions read pages 403–411 of Parker's textbook, in which the factors in effective studying are discussed at length.

Some suggestions for studying for *written tests* will be given later in this exercise book.

EXERCISES ON CHAPTER II

BROADENING PURPOSES OF HIGH-SCHOOL INSTRUCTION

Democratization of High Schools

1. *What teachers are for.* — (*a*) In the quotation on pages 12–13 underline the sentence that seems most helpful to you and mark it (a).

(*b*) Underline one sentence of which you doubt the truth and mark it (b).

(*c*) How would the policy advocated affect school taxes?

2. *Survival of the fittest, leadership, etc.* — Below are two contradictory statements from great enthusiasts for democracy. Show how each is right and each is wrong.

By the democratic Mr. McAndrews, instigator of "What we are For." — "Believe me 'the survival of the fittest,' 'the education of leaders,' 'the aristocracy of learning,' and 'the maintenance of standards' are the most fatuous doctrines for the debilitation of teachers that selfish and pedantic educators ever promulgated. To hear a high-school teacher excuse her failure by asserting that we must always have hewers of wood and drawers of water and that high school is no place for them, makes me blush for our democracy."

By the democratic Thomas Jefferson, formulator of American principles of democracy. — In "Notes on the State of Virginia," after describing free elementary schools which were to be provided, Jefferson said: "These schools [are] to be under a visitor, who is annually to choose the boy of best genius in the school, of those whose parents are too poor to give them further education, and to send him forward to one of the grammar schools, of which twenty are proposed to be erected in different parts of the country for teaching Greek, Latin, geography and the higher branches of numerical arithmetic. Of the boys thus sent in any one year, trial

is to be made at the grammar schools one or two years, and the best genius of the whole selected, and continued six years, and the residue dismissed. By this means *twenty of the best geniuses will be raked from the rubbish annually*, and be instructed, at the public expense, so far as the grammar schools go." (Printed in E. E. Brown's "Making of Our Middle Schools," p. 207.)

3. *Training leaders.* — (*a*) Name seven positions from the presidency of the United States to shop foreman or floorwalker in which qualifications for leadership are needed even in a democracy.

(*b*) Describe some of the qualifications necessary for *successful* leadership in *two* of these positions.

(*c*) At what age in school should *general* training for leadership begin?

(*d*) Should any *special* training for *special positions* of leadership be provided during the high-school age? Explain.

Vocational versus Liberal Training

4. *Vocational origins of schools.* — (*a*) For what vocations did each of the following provide training?

(1) The early Latin Grammar Schools
(2) The early New England Academies
(3) The original plan for the Boston English High School

(*b*) How did these schools change with progress of time in relation to vocational training?

5. *Direct training.* — What is the significance and force of the word "directly," in the sixth line from the bottom of page 10?

6. *Greek idea of "liberal" education.* — (*a*) One of the great Greek philosophers said that the purpose of a "liberal" education is to train for the beautiful enjoyment of leisure time. If you are familiar with Greek industrial history, explain the development of this conception.

(*b*) Show its influence upon the attitudes of present-day classical teachers toward vocational training.

7. *Liberal education redefined.* — (*a*) In the quotation from Cubberley on pages 13 to 15 underline the statement which seemed most *unusual* to you and mark it *u*.

(*b*) Which of his ideas is most *helpful* in general? Why?

8. *Practical judgment.* — Illustrate what is meant by the words "the awakening and refining of the practical judgment of the girl," found on page 15; for example, what are some of the situations in which she has to use *practical judgment*?

Ultimate Aims of Teaching

9. *Phases of efficiency.* — Describe the difference in the *relative* importance of each of the following aims in the education of *boys* and of *girls*: "economic efficiency," "domestic efficiency," "civic efficiency."

10. *Average civic efficiency.* — In order to secure a well-governed city, would it be sufficient if each citizen voted regularly, intelligently, and with good will? Explain.

11. *Efficiency versus morality.* — (*a*) Which of the following statements, (1) or (2), do you prefer? Why?

(1) A certain royal family of Europe were *socially very efficient* in organizing and controlling the economic, political, educational, charitable, and religious life of their country, but they *were immoral* because they were actuated by selfish and unhumanitarian motives.

(2) This royal family were socially *inefficient* because they were actuated by selfish and unhumanitarian motives.

(*b*) What bearing does your preference have on a statement of the aims of teaching?

12. *Harmless enjoyment.* — Discuss some of the following items in relation to training for the *enjoyment of leisure*:

(1) Puritanism
(2) Developments from rural to urban life
(3) Trade unions

(4) English industrial efficiency, gambling, and drunkenness
(5) National singing as in Germany or Wales

Proximate Aims of Teaching

13. *Miscellaneous applications of proximate aims.* — In the teaching of *each* item in the following list indicate which proximate aim is most prominent, by labeling as follows: with *Inf.* if *information* is most prominent; with *H.* if *habits*; with *Id.* if *ideals*; with *Int.* if *interests*.

(1) Pulleys
(2) Washington at Valley Forge
(3) Chlorine
(4) Direct and indirect discourse
(5) Kneading bread
(6) Coal and iron deposits in United States
(7) Battle of pass of Thermopylæ
(8) Bacteria
(9) Periclean Age in Athens
(10) Grasshoppers
(11) American Constitution
(12) Corn
(13) Spartan life
(14) Glaciation
(15) Logarithms
(16) Tennis
(17) *Work* in physics
(18) Effect on signs of removing parenthesis
(19) Giving known axiom or proposition as basis of each new step in a geometry proof
(20) City elections
(21) Plain sewing
(22) Putting down problems, for example, in long division

$$\begin{array}{r} 3 \\ 33\overline{)999} \\ \underline{99} \end{array}$$

instead of

$$\begin{array}{r} 33\overline{)999}\overline{)3} \\ \underline{99} \end{array}$$

(23) Spanish American War
(24) Use of "shall" and "will"
(25) Napoleon
(26) Ivanhoe
(27) Garbage disposal
(28) King Arthur
(29) Transportation
(30) Æsop's Fables in French
(31) Pronunciation of *ich* in German or *son neveu* in French
(32) Color schemes in interior decoration
(33) Erosion
(34) Current events
(35) Swimming

14. *Habits: special and general.*— (*a*) Describe some of the *very special* habits acquired in arithmetic, algebra, geometry, or trigonometry, in the sense in which *special* is used on page 20. (Several examples could be made from the use of parentheses in algebra.)

(*b*) On the other hand, describe some more *general* habits formed in these studies, such as the habit of constructing geometry figures carefully. Another example is given in the list in exercise 13.

15. *Habits: dissimilarities in general habits; a difficult but suggestive exercise.*— If you have studied psychology try to determine how similar the several habits of accuracy described on page 20 really are from the standpoint of *what a person really does* when he is accurate in any one of the cases given; for example, compare in detail the act of "being accurate in measuring and sawing a board to 18 inches long" with the act of "being accurate in describing an automobile accident exactly as it occurred."

16. *Ideals: technique of teaching.*— A teacher said she taught Greek history to inculcate *ideals*, not to give information. How might she teach the battle of the pass of Thermopylæ, or some other familiar incident, in order to be successful in securing the results described on pages 21–22?

17. *Abiding interests.*— Do you consider the following outburst from an idealistic college student to be too Utopian? Explain.

"If early in high-school a pupil's interests are awakened, aroused enough, in science, in English, or history or manual arts, you will get him, I firmly believe, to determine to continue his study even after he leaves high-school. Instead of a bum, a loafer, or a flunky to some paste-diamond studded politician, you will have a clean minded, alert, vividly interested young fellow bent upon further satisfying his curiosity in science research, in journalism or in studying the art of designing a really beautiful chair or table, for instance."

18. *Revised formula of aims.* — In his "General Methods of Teaching in Elementary Schools" (Ginn and Company, 1919) the author has revised his formula of educational aims to read as follows:

Broader social aims	*Detailed psychological aims*
1. Good health	1. Information
2. Harmless enjoyment	2. Habits
3. Good will	3. Ideals
4. Social service	4. Many-sided interests
a. Business	
b. Home	
c. Civic	

(*a*) Point out three specific changes from the formula on page 16.

(*b*) Give at least one reason why the new formula printed above is better.

CHAPTER D

SHORT WRITTEN TESTS

(*To be given frequently*)

Purpose. *Provide stimulus, diagnosis, and training.*— The course in methods of teaching should include *frequent short written tests*. These tests will provide (*a*) a stimulus to study, (*b*) a means of diagnosis of the student's needs and progress, and (*c*) a valuable form of training. As a rule *college students themselves favor* frequent short written tests, as shown by the evidence given on page 495 of Parker's textbook. The advantages and technique of such testing are described at length on pages 493–502 of the text. This discussion should be read rapidly by the students and studied carefully by the instructor.

Technique. *Assign carefully; avoid surprise tests.*— One written test for every four or five class meetings, and varying from fifteen to thirty minutes in length, is sufficient to stimulate careful study by the students and to secure a valid measure of their diligence, ability, and progress. In order to *avoid undue nervous strain*, the test should not be a "surprise," but its time and scope should be carefully announced some days in advance, so as to enable students to plan their studying and reviewing for it.

Give ample time to express main ideas.— Moreover, to relieve nervous tension during the period of writing, students should understand that they will have as much time as *most of them* need to express their main ideas. This involves a slight modification of the rigor recommended on pages 496–497. By careful preparation of his questions, and attention

to the progress that the class is making while writing, the instructor can determine how much time to allow during each test. A preliminary warning of "three minutes more" given before the expiration of the time helps many students to finish writing the ideas they have in mind.

Formulate definite questions; require paragraphing of points. — In order to facilitate grading, the questions should be so worded as to *call for very definite answers.* Students should be required to separate and paragraph their points. This practice trains the student as well as facilitates grading.

Include questions on review and advance reading. — It is well to include in each written test one question on text matter that has already been covered in the class discussions and one on advance reading; otherwise, some very bright, busy students will try to bluff their way through without doing the advance reading, depending entirely on studying during recitation periods.

Assignment of first test. — The first written test may come very well after the class has finished the discussion of Chapter II, on Broadening Purposes. Include as advance reading part of Chapter III, to page 41, which contains some general theory and some practical applications.

How to Study for Written Tests

Purpose. *Review to understand, organize, and remember.* — The following suggestions supplement those given above, on page E15, concerning studying for class discussions. After the rapid reflective study of an assignment recommended there, the student should review it in order (*a*) to get a better *understanding* of the main ideas by studying carefully the supporting details; (*b*) to *organize* the material for his own thinking or to master the organization presented in the text; and (*c*) to *store up or remember* some of the material for use in later parts of the course and some ideas for later use when teaching.

Technique. *Make indented outline of abbreviated assertions.* — The first step in such careful reviewing is writing an outline or brief of the main ideas. These outlines should *express full ideas to the person who makes them*, both at the time and when used later for further review. Hence they consist of assertions and not merely topics, but the language may be greatly abbreviated. For example, the whole discussion of Luther's attitude given on page 7 of the text could be represented in a note as follows:

Luther, about 1500,
  would train promising lads
  to supply preachers, scribes, etc.

Other examples of outlines are found on pages 29, 199–200, and at the bottom of 209 of the text. On page 209 notice how much is told by the effective use of brackets in the outline. The indenting of subordinate ideas and the placing of each idea on a separate line are also helpful. For a further discussion of the value of outlining, see pages 407, 410, 280–281.

Be self-active in outlining. — Selective activity on your part will increase the effectiveness of your outlining. To simply copy the author's headlines or topical sentences is not as helpful as selecting and phrasing the points yourself.

Review text and outlines at psychological intervals. — In order to secure the largest permanent retention of material from the fewest reviews or repetitions, it is desirable to allow *favorable intervals* of time to elapse between reviews of the same material instead of relying on a few *continuous* repetitions. Good advice concerning such distribution of repetitions is given in the long quotation on page 163 of the text.

Rapid active reading in reviewing. — It is probably well in reviewing to read rapidly and *actively*, as recommended above, on page E15, in the case of studying new material. If time intervenes between the reviews, it is easier to make the reviewing be of the active, attentive type.

CHAPTER E

REVIEW DISCUSSIONS

Purpose. *Review; especially at transitions.* — Review discussions by the class or summaries by the instructor should be frequent. They are especially helpful at transition points in the course, after one large topic has been completed and before another is taken up. They should be accompanied by an outline on the blackboard of the main points up to date.

A sample. *Picture of blackboard outline.* — The outline on the blackboard for the first review discussion would resemble that shown in the picture on page E27.

What have we done that is worth while? — The talk or discussion which would accompany this outline might proceed somewhat as follows:

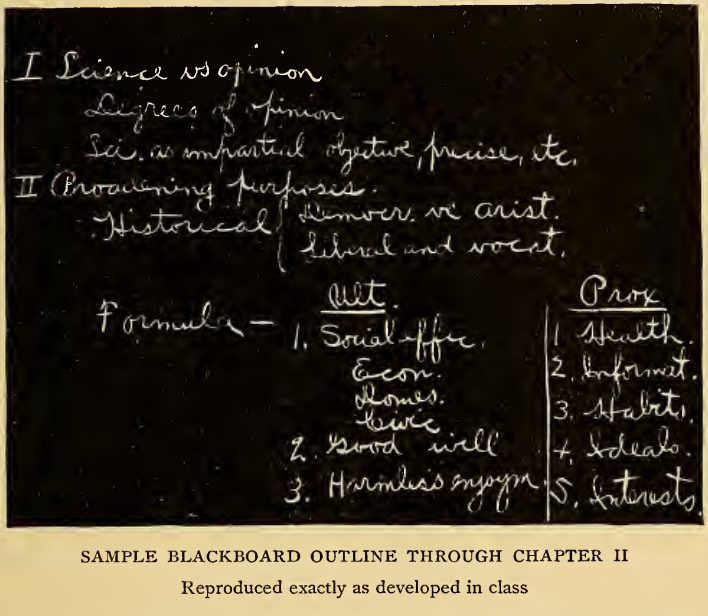
In view of the theoretical nature of our discussion so far, it is well to ask, What have we accomplished in our discussion that is worth while?

Developing professional attitudes. — The answer is that we have been developing certain professional attitudes toward the problems of teaching. These attitudes may be described as follows:

Science and opinion. — In trying to determine the best methods of teaching, we should give preference to the impartial objective, precise conclusions of *scientific* studies instead of mere *opinion*. If we have to rely on *opinion*, prefer that of especially qualified judges, such as John Locke, Dewey, and Thorndike.

Broader aims. — The broader aims of teaching should also determine our choice of methods. In the *modern* high

school *democratic* purposes are prominent and each pupil is given both *liberal* and *vocational* training. In analyzing the values of any material or method we should consider



SAMPLE BLACKBOARD OUTLINE THROUGH CHAPTER II

Reproduced exactly as developed in class

the way in which it contributes health, information, habits, interests, or ideals as the basis of social efficiency, good will, and habits of harmless enjoyment.

These ideas of teaching serve to *develop a liberal-minded, scientific, democratic attitude toward our work.*

EXERCISES ON CHAPTER III

ECONOMY IN CLASSROOM MANAGEMENT

Business Management versus Democratic Ideals

1. *Ideal versus routine.* — What is the difference between an "ideal school" and a "well-routinized school"?

2. *School conditions versus business conditions.* — Can scientific business management in classrooms be carried out as effectively as in manufacturing plants or commercial houses? Explain.

3. *Intelligent spontaneity.* — What is the significance of the phrase "intelligently spontaneous," found in the first paragraph on page 29?

4. *How long to routinize.* — Under proper conditions, how long should it take for the several routine factors outlined on page 27 to become automatic?

First-Day Teaching

5. *Review or introduction.* — In beginning first-day instruction as suggested on page 33, which method would be most effective in each of the following subjects, — "review" or "introduction"? Why?

Algebra	Physiology
English composition	Botany
Latin	Cooking
English history	

6. *French: alternative beginnings.* — Discuss the good and bad points of the following examples of what a teacher of first-year French might take up on the first day:

(1) The conjugation of some verb.
(2) The sounds of the French letters
  (*a*) with word examples,
  (*b*) purely alphabetically.
(3) The telling of a very simple folk tale which pupils know in English.
(4) A few very simple sentences with common words.
(5) Why people ought to know French.
(6) The easiest way to learn French.

7. *Colorful introductions.* — Give an interesting example from some other subject to parallel the use of the Darwin example in the following paragraph by a college student:

"Above all things this introductory talk must not be a technical one; it must be in terms of the learner; it must be interspersed with colorful details which will catch pupils' interest. Casual reference to books should be made (at same time write title and author on the board), with a short and interesting detail or two about the author's life, e.g. 'Darwin was a frail, puny boy. He was a star truant — instead of going to school on a bright Spring morning, he would sprawl under some tree near a brook and watch with all diligence the bugs, frogs and fish in the water. When he was a young man he made a journey around the world.'"

Miscellaneous Routine Matters

8. *Seating; back and front.* — Which of the following procedures is better in classes of twenty or more pupils? Why?

(1) To assign pupils permanent seats for the term.
(2) To assign seats at the beginning of the term and interchange those pupils in the front and rear parts of the room periodically; for example, every two weeks.

9. *Roll call; time consumed.* — (*a*) How many minutes does it take to call the roll in one recitation with a class of twenty students?

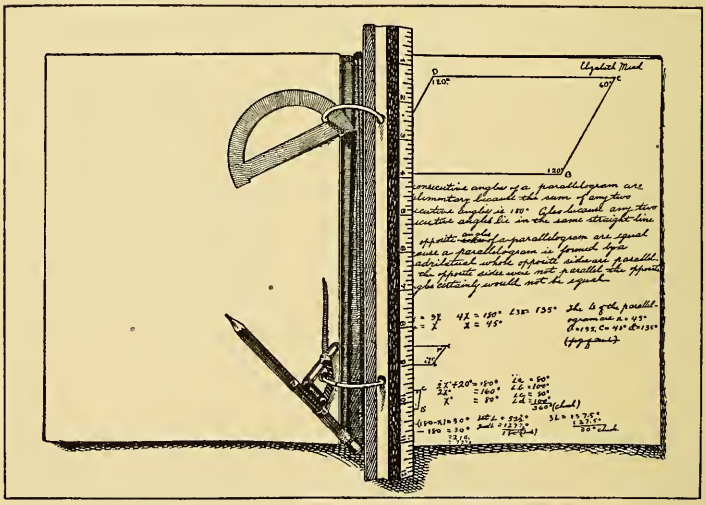
(*b*) What bearing does your answer have on the desirability of assigned seats?

10. *Mathematics equipment.* — (*a*) Check the parts of the equipment described below which you would expect to use in teaching mathematics, and explain your choice.

(*b*) Would you expect students to like the pictured equipment? Explain.

EQUIPMENT

"A good equipment is necessary if the best results in a course in mathematics are to be obtained. The following is a complete list of materials for classroom use and for the pupil.



PUPIL'S EQUIPMENT FOR MATHEMATICS

1. Pupil's Equipment

1 No. 6 notebook, containing unruled paper, squared paper, and theorem paper 50

Squared paper is used in all graphical work. Theorem paper may be used until the pupil has learned the conventional form of writing the proofs of theorems.

1 protractor (good make) 25

1 compass 15
1 ruler (with perforations) 05

The perforations in the ruler must fit the rings of the notebook. Protractor and compass also should be attached to the rings (see picture on page E30).

2. Teacher's Desk Equipment

Pupils frequently lose or forget books and instruments. A teacher's desk equipment makes it possible to supply such pupils with instruments for a class period. 1 doz. compasses, 2 doz. pencils, ½ doz. protractors, and 2 doz. rulers will be sufficient for this purpose.

3. Classroom Equipment

6 large pointers 60
6 blackboard rulers 00

These should be about 3 in. wide, 3 ft. long and have handles. A class in shopwork can easily make such rulers.

12 blackboard compasses 3.50
3 blackboard protractors 1.50
2 45° large wooden triangles 0.00
2 30° large wooden triangles 0.00
1 box colored crayons (assorted) 60
A squared blackboard

A very good squared board is formed by lines drawn on the blackboard, letting a side of a square be a little longer than an inch.

A bookshelf with several of the leading texts and histories of secondary mathematics." — Breslich, "Teacher's Guide for First-Year Mathematics"

11. *Science notebooks.* — How would you manage the collection and distribution of science notebooks with three sections, twenty pupils in a section?

12. *Complaints of history notebooks.* — How would you respond to a complaint in the high-school daily paper that your history notebooks required an unreasonable amount of work?

13. *Lesson procedure.* — Should the order of class work be routinized; for example, in a foreign-language class should some such invariable order as the following prevail?

(1) Assignment of new lesson
(2) Vocabulary test
(3) Form writing
(4) Translation

14. *Close of period.* — Confusion and consequent waste often occur at the end of a period of instruction because the teacher has not anticipated the end. Describe *a device* that the teacher might adopt to avoid this confusion.

Discipline and Control: Order

15. *Jesuit reserve.* — Does the position of the Jesuit writer quoted on pages 45–47 in regard to an attitude of "extreme reserve" appear well taken in the light of your own school experience? Explain.

16. *Class versus playground attitudes.* — Should the attitude of a teacher towards pupils in the classroom differ from his attitude towards them on the playground? Explain.

17. *"Mr." and "Miss" versus "John" and "Mary."* — (*a*) Should pupils be addressed as Mr. or Miss So-and-so or by their given names in high-school classes? Why?

(*b*) What principle in the text applies?

18. *Objective attitudes.* — (*a*) On page 47 what does Parker mean by a "purely *objective*, impersonal attitude"?

(*b*) What are the "objects" which he considers?

(*c*) What conditions to-day make it difficult for the teacher to keep this attitude?

(*d*) Discuss the various ways by which the "objective attitude" might be cultivated.

19. *Tact.* — Suggest tactful ways of handling these situations:

(1) In a school where Latin I is compulsory a student says to the teacher, "My papa says Latin is unimportant anyway. I am going to do just enough work to get through."

(2) In an English class, outside reading of a certain kind and amount is assigned for a certain day. On that day two thirds of the class do not have it. (Is it possible that the teacher needs to reprove himself in this case?)

20. *Opening remark.*—The opening remark by a teacher in a case of disorder is very important.

(*a*) In case you found two boys tossing a tennis ball in the hall, which of the following "openers" would you prefer to use? Why?

(1) "The tennis courts are just north of the building."
(2) "Don't you know that playing ball in the halls is forbidden?"

(*b*) What opening remark would you make in the following cases?

(1) You enter your classroom and find two boys wrestling on the floor.

(2) Some unknown boy throws chalk during a geometry period, although this form of disorder seldom occurs in your class and has not occurred for some time.

Supplementary Bibliography

Colvin, S. S. Introduction to High-School Teaching. (The Macmillan Company.) Chapters IV–VI contain excellent discussions of school discipline, with practical examples. Chapter VII discusses economy in classroom management. Very helpful.

CHAPTER F

FIRST OBSERVATION ASSIGNMENT

Purpose. *Chosen to illustrate principles in Chapters II, III, and IV.* — By the time Chapter III is completed, the class has a sufficient number of ideas concerning teaching to make a profitable observation. It is highly desirable to have this be an observation *by the whole class* of a high-school lesson especially chosen to illustrate principles already discussed and to provide material which may be used to illustrate part of the discussions in Chapter IV. Hence we want a lesson that will provide good material for considering the following:

(1) Broadening purposes of high-school teaching
(2) Routine in management
(3) Progressive adaptation of subject matter

General science. — For this purpose probably the best lesson to observe is a combined discussion and laboratory lesson in first-year general science. If such a lesson is available for observation, the class should be told to read the account of general-science courses on pages 85–89 in anticipation of the observation. If a general-science lesson is not available, probably a similar lesson in some other first-year science would provide the best examples for observation.

Technique. *Write a report according to directions on pages 515–516.* — Members of the class should be asked to write a report on the observation according to the directions given at the bottom of page 515 of the textbook and based on paragraphs I, II, and III on page 516.

Try to see excellent teaching. — The instructor should endeavor to secure an excellently taught lesson for observation, not a mediocre or poor one. Obviously such an excellent example is more instructive for the observers, who should be required to analyze its excellent features. *Bad examples do observers little good,* and *destructive criticism* and analysis *cultivates a bad spirit* between the department of education and the school of observation. It is important to maintain a spirit of friendly coöperation with the principal of the observation school and to consult in advance with the teacher to be observed, so that the latter may know what phases of method the instructor desires to have illustrated.

Stimulate free nondogmatic evaluation; encourage observed teacher. — In order to encourage free expression of opinion on the part of the observers, it is *not advisable* to permit the observed teacher to be present at the discussion of the observation. In this discussion both the students and instructor should avoid extreme dogmatism in rendering their judgments, since there is still wide range for very rational difference of opinion in judging many phases of teaching. The main points brought out in the discussion might be reported to the observed teacher, if he is interested in knowing them. These points should certainly emphasize the excellences of the lesson, although possible further developments of the teacher's technique should also be suggested if these suggestions would seem to be welcome and the instructor is very tactful.

CHAPTER G

EVALUATING HIGH-SCHOOL TEXTBOOKS

(*Learn to know the best in your subject*)

Purpose. *Predominance of textbook teaching necessitates acquaintance.*— In view of the fact that most high-school teaching is textbook teaching, one of the most practical exercises for a prospective high-school teacher is to *familiarize himself with the best* high-school textbooks in his subject. For example, a prospective teacher of English should be familiar with the best high-school rhetorics, best manuals of oral composition, best volumes of selected readings, and many books of fiction, popular science, etc. suitable for high-school readers.

Assemble Textbooks

Technique. *Locate or assemble best recent texts.*— While the instructor and institution are primarily responsible for providing access to up-to-date textbook collections, any assistance which the students themselves may render will be good training for them. Hence some type of coöperative committees may be devised by the instructor to assist in making suitable textbooks available for examination.

Sources of information.— The following sources are most important in securing information about books which should be secured for examination : (*a*) publishing houses, especially the large textbook companies ; (*b*) reviews and advertisements of textbooks in educational periodicals ; (*c*) well-trained, discriminating teachers in high schools and, occasionally, in colleges.

Don't overwhelm students with mediocre books. — In preparing the collection of textbooks to be examined do not include books of questionable value. Endeavor to include only textbooks of high quality so that each student secures large profit from the few hours spent on the assignment. The collection should be reserved in the library and a mimeographed list of the books distributed to the students.

Write for the Chicago list. — In his work at The University of Chicago the author of this text secures each year, from the specialists in the teaching of history, mathematics, English, and other subjects, lists of ten of the best recent textbooks in each of these subjects. These lists are mimeographed for the assignment on evaluating textbooks, and the author will be glad to send a copy to any instructor who cares to have one.

Changes in types of authors. Not many years ago it was the common practice to have the best high-school textbooks written by university professors of the subject. In recent years two new types of authors have forged into the field; namely, (*a*) high-school teachers and (*b*) specialists in the educational aspects of the particular subject. Thus an improved high-school textbook in English may be written either by a high-school teacher of English, or by a professor of the teaching of English in some school of education, or by a combination of these two, working coöperatively. Since some high-school teachers now receive larger salaries than many college professors, we frequently find that the former are as well-trained scholars in their subjects as are the latter. Such high-school teachers, consequently, have sufficient mastery of their subject matter to prepare scholarly textbooks. In addition, they enjoy the special advantage of being in a position to know exactly the needs and interests of high-school pupils and to try out their material experimentally before it is published. Hence some of the most successful of recent textbooks have been used experimentally in mimeographed form for one or more years in several representative schools

and then revised before being printed. The addition of the services of a specialist in the pedagogy of the particular subject frequently assures that the latest results of scientific investigations in the teaching of the subject will be given adequate attention in making the textbook.

Bibliography on Evaluating Textbooks

Recently, departments of education have begun to devote attention to the development of standards for evaluating textbooks in general as well as in the special subjects. The following references will give the reader a notion of some of the types of publications dealing with this problem.

1. Hall-Quest, A. L. *The Textbook; How to Use it and Judge it.* (The Macmillan Company, 1918.) Chapter IV, pp. 73–121, on the selection and judging of textbooks.

2. Brookes, T. D. An Evaluation of Exercises in Civics Textbooks. *School Review*, December, 1920, Vol. XXVIII, pp. 779–787.

Evaluate Selected Textbooks.

(*Special assignment based on Chapter IV*)

Purpose. *Apply principles determining selection and arrangement of subject matter.* — In connection with the next chapter (IV), "The Selection and Arrangement of Subject Matter," the class should be given practice in evaluating high-school textbooks in terms of the principles described there.

Amount of assignment depends on facilities. — The amount or extent of the assigned work with the books will depend on the number of books available and their accessibility. If a carefully selected collection of the best recent textbooks is available on reserve shelves in the university library, students

may do much excellent evaluating of them in a brief time. If books have to be secured from scattered sources, so much time is consumed in gathering them that students cannot be expected to work with so many.

Assignment. *Examine prefaces and text matter.*— Examine the prefaces and text matter of several (?) textbooks in one or two subjects which you expect to teach in high school, *except foreign languages.*

Write comparative paper based on prefaces and text.— Write a brief paper setting forth the extent to which these books embody the principles concerning the selection and arrangement of subject matter *discussed in Chapter IV of Parker's textbook.* Include in your paper the following:

(*a*) *Short* exact *quotations* from the prefaces setting forth their use of these principles.

(*b*) Your own general *comparative evaluation* of the books. Base this evaluation not only on an examination of the prefaces but also on an examination of the text matter itself to determine *if the principles set forth in the prefaces are actually and successfully carried out* in writing the textbooks.

Detailed description of one excellent textbook.— Select one of the best of the high-school textbooks in your subject and write a thorough account of its peculiar excellences, giving specific evidence from the content of the book to illustrate or justify your discussions. The principles set forth in Parker's chapter should form at least a partial basis of your description and evaluation. *Other features* which he does not consider may also be described. A preparatory conversational discussion of what these additional features may be can be carried on in class to advantage.

Form of the paper.— In writing your paper be explicit and definite, and use brief, concise expressions and short paragraphs.

When due.— The papers should be handed in by the time the discussion of Chapter VII is completed.

EXERCISES ON CHAPTER IV

THE SELECTION AND ARRANGEMENT OF SUBJECT MATTER

Purpose. *Develop sympathy with modernizing of subject matter.* — The purpose of this chapter is to develop further the prospective teacher's *point of view* about high-school teaching by increasing his *understanding* of and *sympathy* with the rapid *modernizing* of high-school subject matter which is in progress in the schools.

Knowledge of nineteenth-century social development aids the study. — For the first part of the discussion a knowledge of nineteenth-century social history is especially helpful in making more real the general social point of view expressed in the quotation from Dewey, on pages 54–55. Knowledge of the industrial revolution growing out of the development of the factory system and resulting in the internationalization of industry, including food supply, is especially important. In the political phase of recent social history the students need to appreciate the development of an intense interest in certain local social problems, particularly in the large cities. Changes in national political issues are also important factors, especially in connection with the issue of "states' rights" versus national control.

Individual differences. *Students answer exercises in their special subjects.* — A number of the exercises cannot be answered by *all* members of the class, but in a mixed class of college juniors and seniors there are sure to be some whose specialized courses will enable the instructor to secure answers to all of the exercises from *some members of the*

class. This chapter, then, illustrates the necessity of considering the *individual differences* in preparation and interests among the students in conducting discussions. *Specific exercises should be assigned to different members of the class for prepared answers*, according to their special interests as revealed on the information blanks described above, on page E9.

Most exercises on English and foreign languages postponed. — Owing to the fact that there is a very thorough discussion of the teaching of foreign languages and of English composition and literature in later chapters in the book, the exercises in this chapter are chosen primarily from other subjects.

I. Adaptation of Subject Matter to Social Needs

Answer if easy. — See if you can answer the first five exercises *easily* without reading the note on page E42, below, which gives economic data. After your first attempt read the note and revise your answers if it seems necessary.

These exercises concern the interrelation of educational, industrial, and other social factors.

1. *Industrial education in Massachusetts.* — Why has Massachusetts led other American states in the development of a system of *industrial* education?

2. *Religious conditions in New England.* — (*a*) What religious denomination or belief do you think of as peculiarly characteristic of New England?

(*b*) Why is it that Massachusetts, Rhode Island, and Connecticut are probably the three most strongly Catholic states in the United States at the present time?

3. *Higher education in Illinois.* — Why can the State University of Illinois *easily* secure from the state legislature great appropriations for courses in agriculture and mining engineering?

4. *Chicago district.* — (*a*) Why may the Chicago district become the greatest industrial and economic center in the world?

(*b*) How will it probably rank as a center of education, medical study, religious organization, art, music, amusement (including moving-picture distribution)?

5. *Economic interpretation of history.* — (*a*) What is the "economic interpretation" of history? (See Seligman's book with this title.)

(*b*) How are your answers to exercises 1, 2, 3, and 4 related to this interpretation? (If you had difficulty in answering exercises 1 to 5, reconsider them now in the light of the data given below.)

ECONOMIC DATA FOR EXERCISES 1-5

Coal and iron deposits. — Under "United States" the Britannica states that Colorado probably is the richest coal region in the country, having, with Utah, deposits of about 500 billion tons of true bituminous coal. At the headwaters of the Ohio we find West Virginia (231 billions), Pennsylvania (112 billions), part of Kentucky (104 billions), and Ohio (86 billions), making another region of about 500 billion tons. Illinois (240 billions) and Indiana (44 billions) make another large field, with almost 300 billion tons. Other deposits rank much smaller.

"Almost 95 per cent of the iron ore of the country is believed to lie in the Lake Superior region."

Transportation of iron ore. — During the open navigation season on the Great Lakes great fleets of ore vessels carry the Lake Superior iron ore to Cleveland, Detroit, Chicago, Gary, and other lake ports.

Agriculture. — In a recent year the agricultural products of Illinois exceeded in value those of any other state.

In 1916 the *average value of all plowed lands* in Illinois was $115 per acre. In Iowa it was $135 per acre, but in no other state did it exceed $100. *With improvements* included, the average value per acre of *all farm* lands in Illinois was $119 and in Iowa $106. In only two other states did it exceed $100 per acre.

Manufacturing. — According to the International Encyclopædia, in 1909 Massachusetts was the foremost state in the manufacture of textiles, including cotton goods, woolen, worsted and felt goods, woolen hats, cordage, twine, jute and linen goods, etc. Of boots and shoes made in the United States, Massachusetts manufactured 41.5 per cent. Machinery for textile and shoe factories is manufactured on a large scale.

As early as 1870 the Massachusetts legislature passed a law adding drawing to elementary-school subjects in response to a petition from the leading manufacturers of the state, asking that some steps be taken to remove the lack of skilled designers, foremen, etc.

Center of population. — In 1910 the center of population of the United States was in Bloomington, Indiana.

6. *Economic influences on education.* — Show how economic considerations, including agricultural, industrial, and commercial factors, are affecting the curriculum at the present time in some high schools with which you are familiar.

7. *Social progress and changes in civics.* — Two popular civics textbooks (Andrews's "American Constitution" and Fiske's "Civil Government") which were extensively used until quite recently emphasize the following topics: taxation and government, the township, the county, the city, the state, written constitutions, the federal union. On the other hand, recent recommendations for civics courses stress the following topics: health, protection of life and property, recreation, education, civic beauty, wealth, communication, transportation, migration, charities, correction. Suggest the historical change that has taken place in American social life which is at the basis of this change in subject matter of civics.

8. *History courses and national ideals.* — (*a*) In Prussia the theory of the divine right of kings, which was shattered in England in 1688, was still the basis of government in 1913. Guess what the directions to history teachers in the public schools would say concerning teaching the

children about the relation between (1) the prosperity of Germany and (2) the efficiency of the divinely inspired Hohenzollern kings. (Compare Chapter R, below.)

(*b*) Contrast with this Prussian situation (1) our American government and (2) the teaching concerning it in American-history courses in the public schools.

9. *History: influence of school traditions.* — (*a*) Until recently what *periods* of general or world history were most emphasized in high schools?

(*b*) What was the probable origin of this practice?

10. *Science: its industrialization; botany, chemistry.* — (*a*) Students of botany or agriculture may give illustrations from the activities of the National Department of Agriculture of the practical application of the evolutionary type of botanical knowledge mentioned on page 57.

(*b*) Some of these students may examine Bergen and Caldwell's "Practical Botany" (or other recent texts) and report examples of the way in which botany is made "practical" in these textbooks.

(*c*) In 1860 Spencer emphasized the practical applications of chemistry in bleaching, dyeing, the working of the ores of iron, copper, and other metals, in sugar-refining, gas-making, soap-boiling, manufacture of gunpowder, glass, porcelain, etc. Compare "The Chemistry of Common Things," by R. B. Brownlee and others (Allyn and Bacon, 1914), with some older textbook as to the amount of emphasis placed on these practical applications of chemistry.

11. *Geometry: its elimination.* — (*a*) Underline the most striking sentences in the series of quotations concerning geometry on pages 58–59 and mark them Ex. 11.

(*b*) Does suitable ready-made, well-organized material exist to take the place of geometry in high schools? Explain. (Compare the bottom of page 59.)

(*c*) What kind of case for or against the teaching of geometry would you make in view of this real situation?

Adaptation of Subject Matter to Local and Individual Needs

12. *Education and local social degeneration.* — Do you think that the maintenance of well-organized *agricultural* high-school courses throughout New England from 1800 to 1900 would have prevented the dire social changes described on pages 62–63? Explain.

13. *Should all be local?* — Does the argument on pages 60–65 imply that *all* the subject matter of a small high school should be selected in terms of the *peculiar* needs of the *local* community? Explain.

14. *Service in small high schools.* — Many of the high schools of the country have only one, two, or three teachers. Many beginning teachers have to start in these schools.

(*a*) *How many subjects* would you probably have to teach in such a school?

(*b*) What are the possibilities of your having to teach subjects in which you have *not specialized* in college?

(*c*) How *many recitations* would you have to teach per day?

(*d*) In view of your answers to (*a*), (*b*), and (*c*), how much adaptation of subject matter to the local needs of a new situation will *you* be able to make during your first year of teaching?

(*e*) Certain students may be asked to read the Snedden article (No. 4, p. 93) and report what light it throws on the questions raised in this exercise.

II. Relative Values of Subject Matter

15. *Relative importance of life's activities.* — In analyzing the subject matter of life in connection with his discussion of relative values, Spencer distinguished the five classes of activities concerned with the following: care of children, leisure, health, civic affairs, making a living. Without reading Spencer's essay, arrange these "in the order of their

importance" and justify your arrangement. (If you happen to know Spencer's order, let some other student answer this exercise.)

16. *History as descriptive sociology.*—In discussing relative values in the teaching of history, Spencer said, "The only history that is of practical value is what may be called Descriptive Sociology."

(*a*) What would be the content or principal topics in such a history course?

(*b*) To what extent does the preface from Robinson's history quoted on page 75 carry out the idea of teaching history as descriptive sociology?

(*c*) In what "field of human endeavor" was each of the men mentioned in Robinson's preface a great *leader*?

17. *Dates.*— Several eminent teachers of history submitted the list of most important dates in American history given below.

Endeavor to *explain* the *importance* of each date and its *relative rank* in importance as given in the following table:

Rank	Date	Rank	Date
1	1776	11	1812
2	1492	12	1765
3	1607	13	1783
4	1789	14	1865 (April 14)
5	1620	15	1850
6	1803	16	1854
7	1861 (April 14)	17	1775
8	1787	18	1781
9	1863 (Jan. 1)	19	1823
10	1820	20	1846

18. *Grammar.*— The principle of relative values has been used to effect a very radical elimination of topics in the teaching of English grammar. In the following list mark with *A* three topics of *great practical* value, with *B* three topics of *doubtful practical* value, with *C* three topics that

should be eliminated because of *lack of practical* value for seventh-grade and eighth-grade pupils:

(1) Objective complement
(2) Inflections of pronouns
(3) Comparison of adjectives
(4) Classification of adverbs
(5) Verbs as to kind, number, tense, and voice
(6) Mood (except possibly the subjunctive of "to be")
(7) The nominative absolute
(8) The gerund
(9) The uses of the relative pronouns
(10) Proper nouns as contrasted with common nouns
(11) Double negatives
(12) Adverbs as distinguished from adjectives
(13) The noun clause
(14) The possessive of nouns
(15) Exclamatory sentence
(16) The sentence as a unit

Sex hygiene: relative values.— Occasionally the author has students hand in exercises which raise problems along the lines of the discussion in the textbook. The following very good exercise was handed in by a young married woman who had had experience in teaching in both elementary and high schools. In some classes it could be discussed with advantage; in others, omitted.

(*a*) With the idea of the relative value of topics within a subject in mind, what place would you give to the following topics in a course in physiology or some related course?
  (1) Origin of life.
  (2) Anatomy, function, and hygiene of the genital (sex) organs.
  (3) Venereal diseases.
    (*a*) Methods of contraction.
    (*b*) Effects upon the individual.
    (*c*) Effects upon the offspring.
    (*d*) Eugenics.
  (4) Care and feeding of children (for girls).

(*b*) Is there a real and pressing need for the treatment of such topics in the schools? If so, does the need vary historically between different communities or between different individuals within the same community, or is it a universal need which always has been present but consistently ignored?

19. *Geography; earth and man.* — Think of geography as concerned with the *relation* between the earth and man.

(*a*) Which is most important in this conception, the earth, man, or the *relation*?

(*b*) Which has been most emphasized in the teaching of the "earth sciences" (physiography and geography) in high schools?

III. Intensive Treatment of a Few Topics

20. *Geography; a counterpane.* — (*a*) In reading the quotation from Ritter on page 72 what mental picture do you get from his use of the term "counterpane"?

(*b*) Is it an adequate figure of speech to describe the ordinary textbooks in geography? Why?

21. *Geography; cities.* — In planning to avoid the encyclopedic method of studying *cities*, (*a*) name three *types* of cities that might be studied intensively.

(*b*) Name one good clear-cut *American* example and one good *foreign* example of each type.

22. *History prefaces.* — Report from your examination of the prefaces of history textbooks quotations paralleling that of Robinson quoted on page 75 and dealing with the intensive treatment of a few topics. Cheyney's "History of England" and Muzzey's "American History" may be examined for this purpose.

23. *History; types and economy.* — How would it be possible to carry out the *intensive study of Petrarch* suggested on page 77 and still provide for the *principles of economy* of time described in Chapter III?

IV. Organization of Subject Matter in Terms of the Learner

24. *Practical and theoretical interests.* — (*a*) Which type of student were you in high school, (1) one whose interest was most aroused by the so-called *practical* subjects or (2) one

who was easily interested in studying history, literature, languages, mathematics, or science "just for fun"? Give *objective* evidence for your answer.

(*b*) What proportion of high-school students belong to each type?

(*c*) What bearing do the class answers to (*a*) and (*b*) have upon the idea of making high-school instruction appeal to *practical* interests?

25. *History; interest versus significance.* — (*a*) What phases of history are *most interesting* to adolescent boys and girls (discoveries, explorations, wars, industries, religion, government, recreation, morals, superstitions, education, art, science, etc.)?

(*b*) What phases are *most significant* in studying history as "descriptive sociology"?

(*c*) If there is a *conflict* between your answers to (*a*) and (*b*), *how* would you *reconcile* it?

26. *Mixed mathematics.* — Underline the three most striking ideas in the description on pages 83–85 of the course of study in mathematics.

27. *Vitalizing geometry.* — If you were to teach geometry in a city high school where the prescribed textbook consisted of logically arranged propositions and proofs,

(*a*) *What* could you *do* to give the material some practical value?

(*b*) With *whom* would you *consult* in making these changes?

(*c*) What would be your *chief difficulties* in making any changes?

(*d*) How would you proceed in having a more modern course of study and a reconstructed textbook adopted?

28. *General-science courses; evaluation.* — (*a*) Examine the topics listed in the general-science courses on pages 87–89. Taking the two courses together, mark the topics as follows:

With *In. B* the five topics which you think would be most *interesting* to *boys*.

With *In. G* the five of greatest *interest* to *girls*.

With *Pr. B* the five of greatest *practical* value to *boys* who attend only one year of high school.

With *Pr. G* the five of greatest *practical* value to *girls* who attend only one year.

(*b*) On the basis of this grading, which course seems to be the better?

(*c*) What points are there in the outline of the other course which might be in its favor?

29. *General science; a "hodgepodge."* — The greatest objection made to general-science courses by conservative specialized science teachers is that each course is a mere "hodgepodge." How would you answer this objection?

Supplementary Bibliography

The following publications appeared after the publication of the textbook and are supplementary to those noted in Chapter IV, page 93, of the text.

1. Bobbitt, Franklin. *The Curriculum.* (Houghton Mifflin Company, 1918.) The most scientific treatment of what to teach. Fascinating chapters on training for occupational efficiency, citizenship, physical efficiency, leisure occupations, and social intercommunication. Broad social viewpoint.

2. The Teaching of Community Civics. *Bulletin No. 23 (whole number, 650)*, United States Bureau of Education, 1915. An excellent outline and discussion of an up-to-date course in civics.

3. Fourteenth and Sixteenth Yearbooks of the National Society for the Study of Education, Part I, entitled *Minimum Essentials in Elementary-School Subjects.* (School and Home Publishing Company, Urbana, Illinois, 1915 and 1917.) Contains material on relative values of topics in mathematics, grammar, history, geography, and other subjects.

4. Hill, H. C. Teaching History by Type Studies. *History Teachers Magazine*, April, 1913, Vol. IV, pp. 98–103.

5. Tryon, R. M. *Teaching History in Junior and Senior High Schools.* (Ginn and Company, 1921.) Takes account of scientific progress in organizing historical subject matter.

6. Osgood, E. L., and Richman, Julia. Experimental Course in Industrial History. *History Teachers Magazine*, 1916, Vol. VII, pp. 98–102.

7. United States Bureau of Education. Lessons in Community and National Life. Bulletins beginning October, 1917. Elementary lessons with questions. The national government making text pamphlets to achieve national reforms through education. A significant innovation. Write to the Bureau.

CHAPTER H

MAINTAIN APPARENT COHERENCE

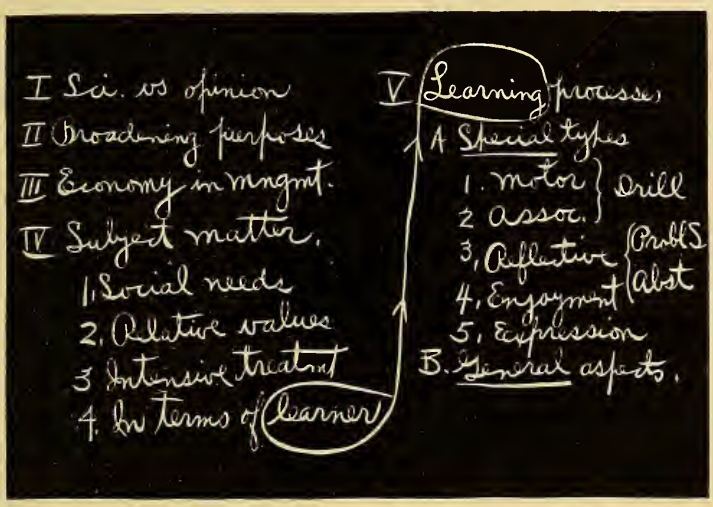
Purpose. *Keep connectedness of discussion clear to class.* — While piloting the class through discussions, the instructor must take care to *maintain* a *well-planned connectedness* in the discussions and to *keep this connectedness clear* to the class. Thus he must not only secure *coherence* in the progress of the discussions but also *apparent* coherence. The quality of coherence in a course is described on pages 90–91 in the textbook in connection with the discussion of the logical quality of reconstructed high-school courses in mathematics and science. To this *logical* idea of *coherence* should be added the *rhetorical* idea of keeping the continuous connected character of the discussion apparent to the audience.

Devices used in the text and exercise book for apparent coherence. — The author has endeavored to secure apparent coherence in the textbook itself by the use of *reviews* and carefully planned *transitional paragraphs and sentences*. In the exercise book the exercises are arranged, as a rule, not in a haphazard or miscellaneous manner, but in an order that will develop a discussion *parallel* to the discussion in the text. The insertion of *topical headings* among the exercises is intended to facilitate further the maintenance of apparent coherence in the discussions.

Value. *Develops a useful system which facilitates remembering and applying.* — If the instructor strives for apparent coherence, as here recommended, the students will gradually develop a *system* of ideas about methods of teaching. Such a system will not only enable them *better*

to understand the problems of teaching but it will also *facilitate remembering* worth-while information and the *application* of the ideas later, when engaged in teaching.

Technique. *Use transitional reviews, progressive outlining, summaries, and introductions.* — The type of transitional review described above, on page E26, is one step in



SAMPLE BLACKBOARD SUMMARY

Reproduced exactly as developed in class. Notice the effectiveness of the arrowed line showing the transition from part IV to part V

the process of maintaining apparent coherence. Continuous development of *sketchy outlines* on the board during discussions is another step. *Summarizing* at the end of each period, and recall of this summary at the beginning of the next period, followed by a statement of the *main problems* for the day's discussion, are further steps.

Blackboard picture. — See the picture above for a blackboard outline of the course up to this point, with the transition to learning processes represented in Chapter V.

CHAPTER I

ADAPT TO LENGTH OF COURSE

Material for fifty recitations. — This book contains enough exercises for about 50 recitations with college juniors or seniors, or graduate students. This estimate is based on the fact that there are about 400 exercises, which would be used at the rate of 8 or 10 for each recitation.

Omit selected chapters in shorter course. — If fewer recitations are available, carefully selected chapters should be omitted entirely; namely, those whose practical application is rather indefinite or narrow in ordinary high-school teaching. Among these chapters are the following: Chapter VI, Acquiring Motor Control; Chapter VIII, Practice or Drill; Chapter XIII, The Influence of Age on Learning.

Slower pace for younger students. — The younger the students in the course the slower should be the pace, since each exercise chosen would need more discussion to secure adequate understanding with college juniors than with graduate students.

Select exercises carefully. — Again the instructor is admonished to study carefully the exercises before assigning them, and to assign only those with which he thinks he can secure the most profitable discussions. As he acquires familiarity with the exercises and their possibilities, his choice may vary to suit the assignments to the varied interests of his students and to different classes.

EXERCISES ON CHAPTER V

TYPES OF LEARNING INVOLVED IN HIGH-SCHOOL SUBJECTS

1. *Write a summary.* — State *in your own words* five concisely worded, fundamental propositions concerning high-school work that summarize the parts of the book studied up to this point. *Write out your answer to this question and hand it in.*

2. *Identify types of learning.* — Which of the types of learning outlined in this chapter are prominent in each of the following activities? Explain.

Knitting.
Pronouncing *ich* in German.
Reading "Ivanhoe."
Reading "Burke's Speech on Conciliation."
Reading "Treasure Island."
Reading Robinson's "History of Western Europe."
Reciting on each of the above books.
Using *der*, *die*, and *das* correctly in German.
Understanding the *rules* for the correct use of the German articles.
Typewriting.
Changing signs and removing parentheses in algebra.
Translating Vergil.
Debating the desirability of capital punishment.
Describing apparatus used in chemistry.

EXERCISES ON CHAPTER VI

ACQUIRING MOTOR CONTROL[1]

Topic of general interest. — So many persons are engaged in acquiring motor skill, either *in* school or *out* of school, *with* instruction or *without* instruction, that this chapter will prove of more general interest and application than would be expected from the specialized professional interests of the students. In addition to examples suggested in the text there are many others, such as learning to ride horseback, to swim, to knit, to knead bread, to finger a guitar, to blow a clarinet or cornet, to dance, etc.

General Principles

1. *Personal example.* — *Describe an example,* from your present or recent experience, of an activity in which you have been trying to acquire motor skill under instruction or trying to teach it to others. Indicate *to what extent each of the questions outlined* on page 99 has had, or may have, a *bearing* on teaching the activity described.

Write out your answer to this question and hand it in.

2. *For unprepared discussion.* — After several of the papers in answer to exercise 1 have been read in class, show how the answers to the questions on page 99 may vary considerably with the type of skill being acquired.

3. *Moving the ears.* — Look in a mirror and try to move your ears.

(*a*) Describe what you *actually do.*

[1] Omit this chapter in a short course.

(*b*) What *ideas or mental states* serve as the "cue" to what you do; that is, how do you start or control what you do?

(*c*) What *instructions* would you give a person if you were trying to teach him to move his ears?

4. *Negative versus positive directions.* — (*a*) Does the Hofmann picture on page 113 violate the instructions about positive and negative directions given on pages 103–104? Is the violation justified? Explain.

(*b*) Answer the same question for the Frontispiece of this exercise book (two pictures, one showing how *not* to study and the other showing how one *should* study).

(*c*) In general, under what conditions would *negative* directions seem to be permissible or helpful?

5. *Moving pictures.* — Kinetoscopic pictures like those on page 107 may be very helpful in increasing the speed of bricklayers. Would they be equally useful in teaching a trick like the "kip," described on page 110? Why?

6. *Skill in demonstration.* — When a teacher of constructive or laboratory work, or of cooking or gymnastics, is demonstrating to a class how to perform an act, what are some of the special precautions which he needs to take to be assured that *all members* of the class get *clear ideas* of what is to be done?

Special Applications

7. *French pronunciation.* — Students who read French may translate the following quotation, and indicate to what extent it agrees or disagrees with the discussion in Parker's textbook and what additional ideas it provides:

"Avec l'enseignement de la grammaire celui de la prononciation réclame toute la ténacité d'insistance et tout l'esprit de méthode dont le professeur est capable. Je me suis efforcé, dans la modeste mesure où un livre peut servir à cette fin, d'aider le professeur dans cette partie si fatigante de sa tâche. Je n'ai pas

voulu faire usage de l'écriture phonétique. Elle n'est pas nécessaire et elle est encombrante. Le maître qui prononce bien, qui sait faire entendre distinctement une phrase et assez longtemps avant d'en demander la reproduction, et qui, en même temps, n'oublie pas d'indiquer pour certains sons la position que prennent les organes dans leur émission, ne peut manquer d'obtenir de ses élèves une prononciation honnête sans avoir recours à l'écriture phonétique. Il ne faut pas faire reposer l'enseignement de la prononciation sur la lecture, fût-elle guidée par des signes phonétiques. Ce serait substituer le plus souvent une diction hachée, lourde, monotone, sans intelligence, à la phrase alerte, rythmée selon le génie de la langue étrangère et dont l'audition et la répétition intensives, loin de toute représentation écrite, sont seules capables de donner de la finesse et de la promptitude à l'oreille de l'élève, et à sa gorge de la sûreté et de la souplesse." — E. Gourio, "La classe en Français."

8. *Phonetic pronunciation.* — In teaching a simplified phonetic scheme for learning *pronunciation*, such as that described on pages 117–118, which of the following practices would you favor? Why?

(1) To devote the first four or five lessons of first-year German *exclusively* to drill on the phonetics and pronunciation.

(2) To begin with simple oral conversational exercises or oral reading and introduce the phonetic scheme gradually along with the conversation or reading.

9. *System.* — Would the plan of teaching pronunciation described in (2) in exercise 8 be necessarily unsystematic? Explain.

10. *Vocal training: singing.* — A vocal teacher maintained that his whole system of instruction consisted in teaching pupils about the structure, function, and control of the diaphragm in relation to breathing. As an example of his methods he stated that often when he wanted to teach a new pupil diaphragmatic breathing, he got the pupil to *laugh or chuckle* and then to continue to *breathe in the same way when singing.*

(*a*) What assistance did knowledge of the structure and function of the diaphragm give the pupil in this case?

(*b*) What bearing does the discussion of pronunciation at the top of page 116 have on this example?

(*c*) Which method of voice instruction described on pages 112–113 was this instructor using, the old Italian method or the modern mechanical method?

11. *Vocal training: singing.* — (*a*) What conclusions would you derive concerning teaching vocal control from the experiences of a student quoted below?

(*b*) How *valid* would these conclusions be from the standpoint of the characteristics of scientific procedure discussed earlier in the course and summarized above, on page E12?

"EXPERIENCES WITH TWO VOCAL TEACHERS

"FIRST TEACHER

"My first lessons in voice consisted in a description (1) of the different organs concerned, (2) of their ways of working when talking, laughing, etc.

"When told to say 'ah — eh — oh' etc., I was so conscious of the movement of my chest and diaphragm that these muscles were in such a tension that the teacher could do nothing with me, though my breathing was naturally correct.

"All her verbal directions seemed to confuse me, and trying to imitate her notes was a failure because my mind was on whether I had my breath in my stomach or not.

"Often I was quite successful in making pure tones but never did get on to how I did it and consequently the next time was the same old thing to go through with — a hit and miss affair.

"This teacher moved away and I had the opportunity to try another one.

"SECOND TEACHER

"This one started out by saying she supposed I knew how to breathe as I had been taking voice and I answered yes.

"Her next remark was that anyone who could breathe well and open his mouth could sing.

"She while playing over several chords began to enter into a lively conversation and suddenly asked me to follow her voice in a simple little song with which I was quite familiar.

"She stressed attention on her tones, naturalness, ease and buoyance of spirit. I had no trouble whatever in making good tones most of the time. There were times when I failed but usually when I was feeling real good and lively the tones came just as if I could pick them off my lips.

"She often put a mirror before me later on to show the workings of my diaphragm, to keep me from shrugging my shoulders and to observe the facial movement. Strange to say I was perfectly at ease before a mirror and it proved quite effective."

12. *Bunk.*— (*a*) In view of exercises 10 and 11 above, do you think the term "bunk" would be a good one to designate many of the claims concerning special methods of teaching voice, pronunciation of a foreign language, and other forms of skill? Explain. (Look up the terms "buncombe," "bunkum," and "bunko" in an unabridged dictionary.)

(*b*) If you do not approve of the term "bunk," what word would you suggest that is equally strong?

13. *Vocal training: an exercise for teachers of public speaking.*— (*a*) Evaluate the following instructions for high-school pupils in public speaking in terms of the discussion in this chapter. Indicate what *principles* apply.

(*b*) Point out any *questions* which may arise in the evaluation which are not discussed in the text.

(*c*) Would there be any difference in the value of physiological directions in training singers as discussed in exercises 10, 11, and 12, and their value in training public speakers? Explain.

"GOOD BREATHING

"The following *physical signs* indicate *correct inhalation*:

"(1) The diaphragm will drop gently down.

"(2) The abdomen will slightly expand.

"(3) The short ribs will pull apart, and upward.

"(4) Slight expansion can be felt in the small of the back.

"(5) The upper part of the lungs will expand as far as the more rigid upper ribs will allow, without, however, lifting the shoulders.

"(6) The central point in the chest, the dominant center of the body, will rise from one to two inches.

"(7) One will feel buoyant, light on his feet, ready to float in the air, as a vessel filled with air will float on the water.

"The following *physical signs* indicate *incorrect breathing*:

"(1) In normal inhalation it is always wrong to lift the shoulders.

"(2) It is wrong to feel expansion only in the upper part of the chest.

"(3) When expansion of the top and sides of the chest is accompanied by a flattening of the abdomen, breathing is imperfect. The abdomen should expand.

"(4) It is wrong to fill the upper part of the chest first. First fill the lowest cells in the lungs.

"To fill the lower parts of the lungs, one needs to feel that his voice reaches down through his mouth, throat, and windpipe, to the very lowest cells of the lungs. He should feel that the seat of the voice rests on the diaphragm. Vocalization, therefore, starts with the movement of the diaphragm.

"(5) Few general rules can be given as to where in utterance one should pause for breath. One can only say, breathe at every convenient pause; do not breathe too often, and never breathe too deeply.

"EXERCISES IN GOOD BREATHING

"(1) Place the thumbs on the small of the back, the palms and fingers lying flat on the lower, or short, movable ribs. Breathe in deeply through the nose, allowing the expansion of the lower part of the chest to pull the hands apart.

"Breathe and say: 'I feel the diaphragm falling as my lungs fill with air.'

"(2) Breathe and say: 'I feel the short ribs pulling my hands away from each other.'

"(3) Breathe and say: 'I want to have large, full expansion of the lower part of my lungs.'

"(4) Place the fingers upon the small of the back, the thumbs in front, just above the hips, breathe in a low, deep breath.

"Say: 'This deep breath causes the small of my back to expand.'

"(5) Breathe and say: 'I want my back to expand as much as possible, when I breathe deeply.'

"(6) Say: 'As I speak, I feel my voice resting down upon my diaphragm.'

"(7) Feel the stroke of the diaphragm against the bottom of the lungs.

"Say: 'Ho! Ho! Ho! Ho! Ho! Ho!'

"(8) Breathe deeply after each word.

"Say: 'My | words | start | from | the | very | bottom | of | my | lungs.'

"(9) 'Cry | Heaven for Harry | England | and | St. George!'

"(10) Breathe, talk out of the lungs filled deeply; take a deep breath at indicated points. 'Classmates, the first principle of good vocalization | is that we must keep our lungs | full of breath |. Now that my lungs are filled deeply | I am able to speak firmly and strongly.| My voice seems to be resting on my diaphragm.'" — Fundamentals of Oral English. *Bulletin No. 682*, University of Wisconsin.

EXERCISES ON CHAPTER VII

ASSOCIATING SYMBOLS AND MEANINGS: LEARNING A FOREIGN VOCABULARY

Observation. *Arrange to observe French or German lesson.* — An observation of a lesson in *first-year* German, French, or Spanish should be arranged to take place after the class in methods of teaching has spent one or two hours discussing this chapter. The lesson observed should illustrate either (*a*) the *direct* method or (*b*) the *transition* from translation to reading without translation in case an indirect method is used. (In the fall a second-year class would serve better for this second purpose.) It is well to arrange with the language teacher to have included in his lesson the three following phases: (1) practice in *pronunciation*; (2) *vocabulary* work, that is, learning meanings of some new words and practice with old ones; (3) practice in correct *grammatical usage*. Thus the observation will illustrate the three phases of language instruction discussed in Chapters VI and VII. The observers may be asked to *write a brief evaluation of the observed lesson under the three headings noted above*.

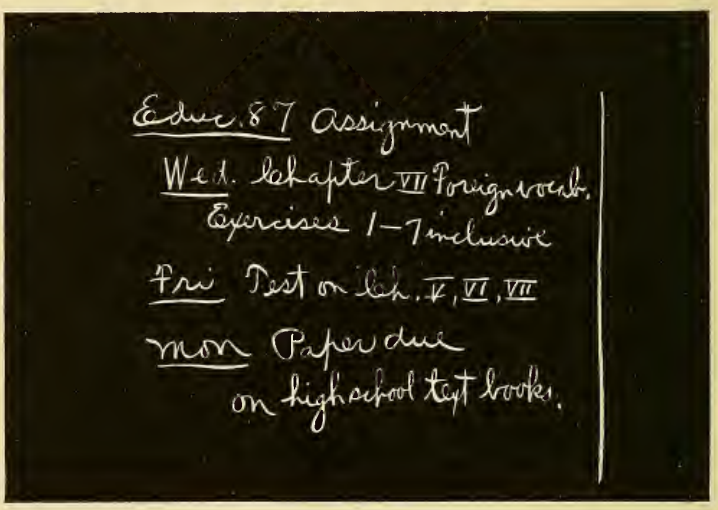
Associational Processes in Language Study

1. *Reading versus expressing.* — Note on pages 124–125 the distinction between the associational processes in *reading* and those in *expressing*. (*a*) Does ability to say the alphabet forward enable one easily to say it in the reverse direction? How do you proceed when you try to reverse it?

(*b*) Answer (*a*) for "My Country, 't is of Thee."

(*c*) In view of your answers to (*a*) and (*b*), to what extent does training in *reading* a foreign language train a person to *express* himself in the language? Explain.

2. *Persistence of intermediate links.*—(*a*) How long does the intermediate link shown in the diagram at the top of



SAMPLE ASSIGNMENT ON BLACKBOARD

Each day, while the class is assembling, the instructor should write memoranda of outstanding assignments on the blackboard, using always the same corner of the latter, so that students will form the habit of noting them

page 125 persist when one is taught a foreign language by the indirect method? Explain either in terms of the theory of association or in terms of your own experience in studying a foreign language for several years.

(*b*) What devices can a teacher use after the first half-year of indirect instruction to eliminate the intermediate link; that is, to train pupils to use their acquired vocabulary so as to read without translating?

(*c*) It has been said that the emphasis on *oral* reading in elementary schools tends to make *slow* readers of children, to interfere seriously with their acquisition of habits of *rapid silent* reading. Try to explain this contention by means of a diagram showing *pronunciation* as an intermediate link.

(*d*) Some students may be able to give other examples of the persistence of intermediate links; for example, transposing to a "favorite" key or a "universal" key in playing a musical instrument.

3. *Direction of arrows.* — In the diagram on page 127 why do the arrows point away from the picture of the book instead of toward it?

4. *Thinking in foreign language based on series of events.* — Explain somewhat more fully than is done at the top of page 128 or middle of page 131 the advantages claimed for teaching a series of *verbs* by the direct method as compared with teaching the names of a series of objects. In other words, show how the use of *action* or *narrative* material provides a better basis for *thinking* in a foreign language than does the mere use of *objects*. Use the last four sentences on page 130 or the ten numbered sentences at the top of page 133 to illustrate your explanation.

Direct Methods for Inexperienced Teachers

5. *Amateur use of direct method.* — If a teacher of a foreign language who speaks it only haltingly had some good supervised practice-teaching in the first three months of a good ready-made direct system, should she choose to use a direct or an indirect method? Explain.

6. *Ready-made material.* — Give other examples (some of which may have been discussed earlier in the course) of the *failure* of educational reforms to make progress owing to the *lack* of good *ready-made* material for inexperienced teachers.

Gouin Series

7. *Qualities of a good first series.*—(*a*) Criticize the series given below in the light of the directions which follow it.

The first series in a well-known system for teaching English to foreigners contains, among others, the following sentences:

" Title — GETTING UP IN THE MORNING

Verbs	
awake	I awake from sleep.
open	I open my eyes.
look	I look for my watch.
must get up	I must get up.
throw back	I throw back the bedclothes.
put on	I put on my pants.
put on	I put on my stockings and shoes.
wash	I wash myself.

" *The directions for teaching* any series read in part as follows:

" Then, as far as possible, bring the articles of which you speak into the classroom. Play your part with these implements. Execute, wherever you can before the whole class, each successive step described in the lesson. In this way, if you act the part well and speak plainly, never hurrying and never impatient, the class that is wholly foreign in tongue will soon comprehend your meaning and begin to talk and understand the English tongue."

(*b*) *Evaluate the series* at the bottom of page 130 and the top of page 132 from the point of view of the above directions.

8. *Possibility of dramatizing meanings.*—(*a*) In viewing a moving-picture performance does an observer necessarily convert the pictures into words in his mind?

(*b*) What bearing does your answer have on the validity of the theory of association upon which the Gouin method is based?

(*c*) In connection with the matter of gestures, what is one of the greatest dangers of misuse of the Gouin material by an inexperienced or careless teacher?

(*d*) Perform the gestures which you would use in dramatizing the meanings of the following sentences:

I stretch out my arm.
I take hold of the knob.
I turn the knob.
The door opens.

I look for the first page.
I find the first page.

It is hot.
It is cold.

9. *Use of synonyms and opposites.*—Often a synonym or opposite of a new word is *known* or *can be taught more easily* than the new word; for example, in English, "refuse" can probably be taught by dramatization more easily than "accept." "Right" and "left" can be more easily taught together than separately. A teacher of French says, "'Taisez-vous' signifie en français 'cessez de causer.'"

Give examples from English, French, or German illustrating how you would teach words or phrases by use of synonyms or opposites without recourse to translation.

10. *Pasting versus copying.*—Would you have pupils *paste* the printed series in their notebooks or *copy* them and return the originals? Why?

11. *Correct grammatical usage.*—(*a*) Show how the series on pages 130 and 132 might be used to give training in grammatical usage of different forms of verbs (person, number, tense), as suggested by Handschin on page 136.

(*b*) If the discussion of grammatical usage on page 137 is correct, is there any valid reason for teaching tabulated declensions and conjunctions *at all*? Explain.

12. *Temperament.*—What part does *temperament* play in the success of a teacher who uses the Gouin method; for example, what one word best designates the most effective temperament?

13. *Spontaneous material.* — It might be argued that a teacher should develop his conversational material in the foreign language *spontaneously* from the daily experience of the class. What are the *objections* to this practice?

14. *Material for French lessons.* — (*a*) Students of French may give the principal *ideas of method* contained in the preface of Gourio's textbook, quoted below.

(*b*) Indicate to what extent it agrees or disagrees with Parker's discussion or gives additional ideas of method.

"Le professeur de langue vivante peut augmenter considérablement l'efficacité de son premier enseignement en se servant de la langue enseignée pour diriger sa classe. Aussi cet ouvrage offre-t-il tout d'abord à l'étude les vocables qui expriment la vie de la classe. Et ces vocables il les ordonne de manière à permettre un enseignement direct qui soit rapide et sûr. Il se soumet par conséquent à l'obligation qu'impose la méthode directe de doser légèrement les leçons, de graduer avec le plus grand soin les difficultés, de passer du concret à l'abstrait et du particulier au général, bref d'établir dans l'enseignement un enchaînement tel que la signification des mots étudiés puisse servir peu à peu à découvrir celle des autres. Est-il besoin d'ajouter que cette ordonnance rigoureuse, si elle est indispensable dans la manière directe, ne peut que convenir au professeur indirect, c'est-à-dire à celui qui préfère introduire le mot français à l'aide du mot maternel? Celui-ci, en effet, doit se tenir en garde contre la facilité que lui offre l'instrument de la traduction d'entrer au hasard dans la langue étrangère et d'y découper de trop larges tranches de vocabulaire et de grammaire.

Cet ouvrage ne vise pas à enseigner un vocabulaire étendu. Ce qui importe d'abord c'est l'enseignement des formes, de montures de langage où l'on sertit les mots du dictionnaire à mesure des besoins. Peu de mots, incessamment rappelés dans les formes grammaticales essentielles où le verbe et les pronoms qui gravitent autour du verbe sollicitent le principal effort de l'élève, tel est le programme qui me semble s'imposer au début. Et c'est seulement au moyen d'exemples vécus, greffés pour ainsi dire sur les réalités de la classe, abondants, constamment entendus et répétés qu'on

peut enseigner d'une manière efficace cette grammaire fondamentale. La pédagogie qui se contente de la faire apercevoir à travers des règles sèches et des exemples rares est aujourd'hui condamnée." (See No. 6 in the bibliography below.)

15. *Vitalizing indirect method.*— Show how some of the devices of the direct method might be used to vitalize or supplement the indirect method.

Additional Bibliography

1. Roberts, Peter. *English for Coming Americans.* (Association Press, 124 E. 28th St., New York.) Y.M.C.A. material for teaching English to foreigners. The teachers' manual (50 cents) is one of the best Gouin manuals in English. The oral series, readers, charts, and drill cards are helpful and suggestive.

2. Gouin series. Gouin lessons in French, German, and Spanish may be secured from the Series Publishing Company, Oxford, Ohio.

3. Oliver, T. E. Suggestions and References for Modern Language Teachers. *School of Education Bulletin* (University of Illinois, Urbana, Illinois), Revised Edition, 1917 (price, 25 cents). Excellent descriptive list of materials to be used in teaching modern languages.

4. *The Modern Language Journal.* Concerning this publication Oliver writes as follows in reference No. 3, above: "*The Modern Language Journal*, dealing specifically with pedagogical aspects, has just begun publication and deserves the support of all progressive teachers. The subscription price of $1.50 per year includes also membership in the newly-formed 'Association of Modern Foreign Language Teachers of the Central West and South,' which holds annual meetings in April. Address the Secretary, Professor C. H. Handschin, Oxford, Ohio. A similar society in the east is 'The Federation of Modern Language Teachers,' which coöperates with the western association in the above journal. This journal is destined to become invaluable to the modern language teacher. 1916–1917 will be Volume I. There are to be eight numbers a year."

Direct-method texts in German and French. — In order to secure a start in using a direct method, beginning teachers of German or French will probably have to rely on textbooks which are available. In choosing a text they should notice to what extent it possesses the following features: (1) early introduces the *conversational phrases* to be used in class intercourse; (2) provides *Gouin-series material* for teaching the names of ordinary objects in the classroom and ordinary activities; (3) provides *pictures* for teaching the names of other objects; (4) introduces systematically and gradually *frequent practice* in *pronunciation*; (5) provides for systematic, repetitional *vocabulary building*, so that words once learned are repeated and used until *learned permanently*; (6) provides systematic training in correct grammatical *usage* or *practice*, with few grammatical rules; (7) contains attractive *easy* narrative reading material as the basis of beginning *fluent reading*; (8) provides *ready-made questions in the foreign language* on the reading matter, to which pupils may prepare the *answers in the foreign language* during the study period; (9) uses historical or geographical narrative material relating to Germany or France; (10) uses various devices to secure interest, such as jingle rimes and songs in the foreign language.

CHAPTER J

PERIODICAL READING ON TEACHING SPECIAL SUBJECTS

Purpose. *Provides for individual differences in interests.* — In view of the fact that Chapters VI–XI deal with special types of learning which appear in varying degrees in the teaching of special subjects, it is well to parallel the reading of this part of the text with outside assignments which will provide for the individual differences in interests of members of the class. One of the best ways to do this is to assign a prescribed amount of reading of articles in recent periodicals dealing with the teaching of special subjects.

Read discussion of periodical reading. — The discussion of the value of periodical reading given on page xxi of the textbook (page xxiii in the first edition) should be read by the students. In addition to the periodicals mentioned there the following publications will be found helpful:

Classical Journal. (The University of Chicago Press)
Classical Weekly. (C. Knapp, Barnard College, New York City)
General Science Quarterly. (W. G. Whitman, Salem, Mass.)
Journal of Home Economics. (1211 Cathedral St., Baltimore, Md.)
Modern Language Journal (see above, p. E69, for description).
Proceedings of the National Education Association, especially the articles in the special departments.

Assignment. — 1. Choose some subject or topic such as English, a foreign language, mathematics, composition, oral composition, literature, current literature, civics, debating, home economics, botany, drawing, etc.

2. Find in periodicals or reports of associations published during the past five years (that is, since 19—) ten articles of five or more pages each, dealing with the teaching of the special subject or topic chosen. If an article is very long, for example, fifteen pages, you may count it as two articles.

3. Give complete bibliographical data for each article: name of author, title, periodical, volume, and inclusive pages (for example, Vol. XV, pp. 275–281) and year.

4. Write a fifty-word description and summary of each article.

5. Hand in on —— (date).

6. One-half theme pages furnish convenient writing material for this purpose. By having these at hand when reading, and by writing legibly, you may save making a second copy. Use full theme sheets if you prefer. Use a separate sheet or half-sheet for each article. Write on the reverse side if the material will not all go on one side.

7. Remember that the *instructor is interested* in your summaries and profits from reading them. He has not time to read regularly all the specialized journals which members of the class examine. Hence your summaries help him to keep in touch with this material and to *locate* some of *the best* articles which he may find time to read. He will make note of these and return your bibliography.

CHAPTER K

WAYSIDE SUGGESTIONS TO THE INSTRUCTOR

Beware of overemphasis on early chapters. — The instructor should remember that later parts of the book must not be neglected as a result of spending too much time on the earlier parts. Far along, for example, come Chapters XVII and XXII on the use of books and on tests and examinations, which are important for *all* teachers. Apply carefully to the planning of the course the first large-type paragraph on page 69 of the text.

Vary procedure for interest. — While the ordinary practice is to discuss the exercises *after* the corresponding chapter has been read, it creates interest to begin *some* chapters by a discussion of the exercises *before* the chapter is read. This also creates a problem-solving mental attitude which is helpful.

Develop the students through their self-activity. — Remember that the development of the ability of the students to evaluate and apply principles of teaching comes from their own activity in thinking and expression. Incidental lecturing by the instructor should merely supplement the students' efforts.

Give the slow a chance. — Save the easier exercises for the slower students to answer. By this practice they will be encouraged and developed through their successful responses.

EXERCISES ON CHAPTER VIII

PRACTICE OR DRILL[1]

Automatizing Motor and Mental Associations

Read twenty-five pages in about fifty minutes. — This twenty-five page chapter can be read rapidly, as a person would read a magazine article, in from forty to seventy-five minutes. This statement is based on the data given on page E193, below, showing that in ordinary reading high-school students read from 100 to 375 words per minute. Parker's pages usually contain about 400 words. Hence college students, except the slowest readers, should be able to read a page in from two to three minutes, and a chapter of twenty-five pages in from forty to seventy-five minutes.

Get the big ideas first; then detailed evidence. — There are certain outstanding ideas in this chapter which are easy to grasp. Get them on the first reading. There is a lot of scientific evidence for these ideas which it is difficult to master. Examine this carefully on the second reading, as it illustrates very well the methods of mathematically precise investigations of processes of learning.

Use the technical terms of the chapter. — The following terms are used in the chapter to express the principal ideas about practice:

(1) Correct start.
(2) Correct practice; accuracy versus speed.
(3) Zeal, interest, concentration of attention.
(4) Satisfaction and dissatisfaction; encouragement and discouragement.

[1] Omit this chapter in a short course.

(5) Avoiding waste of time on accessory or nonessential processes.

(6) Correct-recall method.

(7) Whole and part methods.

(8) Distributed repetitions versus consecutive repetitions.

The use of these terms in discussing the exercises in class will facilitate mutual understanding. The first exercise gives practice in identifying some of these main ideas in an everyday discussion of practice; namely, practice on the piano.

General Principles

1. *Piano practice; parallel of scientific and practical precepts.* — (*a*) Study the long quotation from Hofmann on pages 164–166 concerning piano practice. *Indicate on the margin of the text for each part of the quotation the corresponding general rule for practice discussed in the preceding parts of the chapter and summarized above.* Use the terms or numbers given above.

(*b*) State in general whether Hofmann *agrees* or *disagrees* with these rules. Disregard Hofmann's headlines. Dig into his paragraphs.

2. *Piano practice; practical disagreements.* — (*a*) Compare the recommendations given below by a musical college with those of Hofmann. Which would you consider more valid, these or Hofmann's? Why?

(*b*) How would trained scientific experimenters proceed to determine the truth in this controversy? (Review exercise 10 on page E12, above.)

MUSICAL COLLEGE RULES

"In regard to piano practice, divide the piece into sections, and practice and learn the piece by parts. In this way, you are not so apt to become confused or to forget your piece, when playing in public. Be able to play each little section or part, absolutely independent of each other part."

3. *Correct start versus drill.* — Show how the *initial careful study* of a poem or a piano selection, or some other unit, might involve quite a different procedure from that involved in *later memorizing* of it by correct recall, by wholes, or by distributed repetitions.

4. *Self-correction versus outside correction.* — When a pupil makes an error in pronouncing a foreign word or singing a tone, should he be told merely to "try again," or should the teacher give him specific help for his next attempt? Why?

5. *Teacher correction versus class correction.* — What are the advantages of the following device?

In a certain direct-method French class, when a pupil has made a grammatical error in giving a word or sentence, the teacher, as a rule, gives in French the command, "Class, correct." Thereupon the class in concert gives the correct form.

6. *Encouragement versus discouragement.* — (*a*) The teacher of French mentioned in exercise 5 is quite lavish in bestowing the remark "très bien" (very good) upon pupils who have just finished reciting. Would you consider this a mannerism or a helpful device?

(*b*) Which should predominate during practice or drill periods, encouraging or discouraging remarks? Why?

7. *Plateaus.* — Is there any reliable practical method by which a teacher can determine whether his pupils have reached one of the "plateaus," or "critical stages," described on pages 149–151 of the text? Explain.

8. *Pauses when memorizing.* — What explanation in terms of this chapter can you offer for the following facts?

In experiments involving the memorizing of *long paragraphs*, it was found that the *first* and *last* sentences were *learned more readily* than the other parts. Thereupon, a pause was inserted at the end of the sentence in the middle of each paragraph, and it was found that this increased the readiness with which material on either side of the inserted pauses was learned.

9. *Length of profitable practice periods; a difficult technical exercise.* — (*a*) How many different associations does a person practice in the substitution test described at the bottom of page 161? (Imagine a new symbol for each letter; for example, let □ stand for *a*; △ stand for *b*, and ⊼ stand for *c*, with other new symbols for the remaining letters. In translating the word "cab" into the new alphabet a person would write ⊼□△, thus using for this word three associations.)

(*b*) How many associations does a person practice who is practicing a complex piece on the piano?

(*c*) In which instance would profitable practice periods be longer, in case of the *substitution* practice or the *piano* practice? Explain in terms of this chapter.

10. *Useful paragraph for student.* — For your own practice or drill purposes *as a student*, what is the most practical and useful paragraph in this chapter? Why?

Special Practical Applications

11. *Elementary-school drill versus high-school drill.* — *Compare* the fifth-grade procedure described below with the old-fashioned oral drill in which a teacher said, "Multiply $\frac{5}{6}$ by $\frac{1}{2}$," hesitated a moment, and then called some pupil by name.

(*a*) Which method is more economical? How much?

(*b*) Which secures more zeal and concentration of attention? Why?

(*c*) Do you think similar economy, zeal, and attention could be secured in high-school drills? Why?

Fifth-grade card drill. — A fifth-grade teacher had a pack of drill cards with fractions on them like this: $\frac{5}{6}$ $\frac{4}{5}$. She stood before the class and said, "Multiply by one half," and wrote "$\frac{1}{2}$" on the board. She appointed one boy to time the drill; then said, "Ready, go!" and flashed the first card. The first child gave the product; the second card was flashed, the next child in order gave

the product. Rapidly the cards were flashed, the children answering in regular turn around the room. In case one child gave a wrong answer, the next child answered for the same card. Every child had 3 turns. The total number of problems finished was about 50 to 60. The process took $2\frac{1}{2}$ minutes. The teacher wrote the record on the board, " 2 min. 30 sec.," under the record of the preceding day and opposite the record " 2 min. 25 sec." for another class with the same pack of cards.

12. *Try some drill cards.*— Would you take the trouble to develop fully such a drill scheme as that described below when actually engaged in teaching? Why?

Make 10 drill cards on slips of fairly stiff paper, about one-half theme-sheet size, using such material as the following: 10 French sounds, 10 German sounds, 10 German prepositions governing different cases, 10 Latin words, 10 algebra problems in removing parentheses, such as $\boxed{6(3x+8)}$ $\boxed{5(4x-2)}$, or 10 algebra problems in special products, as $\boxed{(2x-3)^2}$ $\boxed{(a-4)(a+b)}$, etc.

Print or write large enough for the cards to be read by a person five feet away.

Try flashing them on a friend or an imaginary class.

13. *Pronunciation drills.* — (*a*) What are the advantages of having the vowel triangle used in phonetic training painted on the blackboard as shown in the picture on page E79?

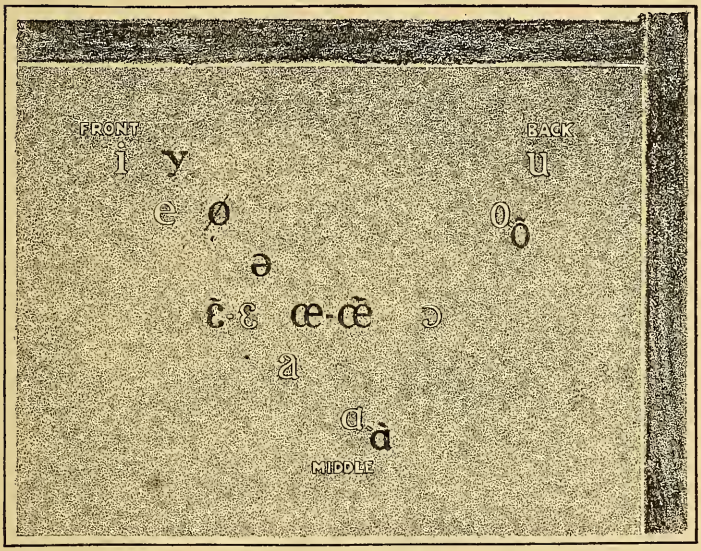
(*b*) At what part of the language period should pronunciation drills come? How many minutes should they consume?

(*c*) Compare the advantages of *concert* responses and *individual* responses, as the teacher points at the symbols on the blackboard.

(*d*) What are the advantages of the following device?

A teacher of French has just taught a new sentence by the direct method. He has the class repeat the sentence in concert, slowly and carefully. He raps on the table for each syllable. The sentence is repeated several times, the speed of the well-defined rhythmic raps being increased until the sentence is spoken as rapidly as the class speaks English.

14. *Foreign-vocabulary practice.* — (*a*) In studying a foreign language by the translation method, the meaning of a new word may be ascertained to-day, but the same word not be met again for days or weeks. What bearing does the second half of the long paragraph at the top



PHONETIC TRIANGLE PAINTED ON THE BLACKBOARD FOR USE IN FRENCH CLASSES

The four dark symbols beginning with Y and proceeding diagonally down to the center are painted yellow. The other dark ones are painted red. Courtesy of A. G. Bovée of The University of Chicago High School

of page 163 have on this practice? What remedy would you suggest?

(*b*) In beginning to read a foreign language, what are the advantages of having pupils read *considerable easy* material at the beginning?

(*c*) It is sometimes argued that the practice of having a student look up new foreign words in a dictionary is justified by the fact that the *effort* which he has to make to get

the meaning will make him *remember it better.* Evaluate this argument in terms of the discussion in this chapter.

15. *Algebra drills. Correct start described later.* — In the teaching of *motor skill* and *foreign vocabularies* the "correct start" which should precede drill was described in Chapters VI and VII. In teaching *algebra* the "correct start" consists in giving a *clear understanding of new abstract ideas.* The nature of the "correct start" in this case will be described later in the second part of Chapter IX. It seems desirable, however, to emphasize the drill aspect of algebra at this point, but the student should keep in mind that drill on any algebraical process should always be preceded by a clear understanding of the process by the students.

(*a*) What paragraphs in Chapter III of Parker's text are illustrated by the following statement?

"In order that the pupil may use successfully algebraic methods in the solution of verbally stated problems, he must have absolute mastery of the tool operations he is going to use in that solution. A pupil should remove parentheses, factor, solve simple equations, use special products, exponents, radicals, etc., just as he uses the multiplication table, writes, spells, or gets meaning from written language — *in a word, automatically.* It is not economic or expedient to force pupils to raise to 'thinking' or 'reasoning' levels the formal manipulation of these purely tool operations. The Committee on Standards is, therefore, insisting on thoroughness in the formal operations, in the interest of '*economy of time*' *in first-year algebra; in other words, in order that a larger amount of time may be spent in the use of the formal operations in solving* '*original*' *problems.*" (Quoted from No. 1 on page E81.)

(*b*) If you were teaching algebra how would you proceed to determine *precisely* whether your pupils had "automatized" sufficiently the processes mentioned in the above quotation? (See articles by Rugg listed below.)

16. *Summary.* — Of the eight ideas outlined at the beginning of these exercises, which *three* are *so important* that they should prevail in *all* drills? State them as rules (complete sentences) instead of mere topics.

Additional Bibliography

1. Rugg, H. O., and Clark, J. R. Standardized Tests and the Improvement of Teaching in First-Year Algebra. *School Review*, February and March, 1917, Vol. XXV, pp. 113–132, 196–213. Final report of long investigation to determine standards of efficiency in algebraical processes.

2. Rugg, H. O. *Practice Exercises in Algebra.* (Address H. O. Rugg, School of Education, The University of Chicago.) Differentiated drill exercises to attain standard achievement in several algebraical processes. See also *School Review*, October, 1917, Vol. XXV, pp. 546–554.

3. Roberts, Peter. *Conversation Cards for Teaching English to Coming Americans.* A part of the direct system described above in No. 1, p. E69.

4. Young, W. H. *Perception Cards to Accompany Pearson's Essentials of Latin.* (American Book Company.) This set of drill cards contains 500 vocabulary cards. A Latin teacher may supplement these by making additional cards for other phases of the work.

EXERCISES ON CHAPTER IX

REFLECTIVE THINKING

SECTION I. PROBLEM-SOLVING

Arrange an observation. — The instructor should arrange to have an observation of a problem-solving lesson to take place after the discussion of pages 169–200 or 169–205. Care should be exercised to secure a good lesson, one which involves *intensive work by a class upon a rather large problem.* The best examples are usually found in the social sciences; for example, a seventh-grade history class working on the problem, "Compare the probable conditions of settlement in the Northwest Territory with those in Kentucky" (the latter conditions being known to the pupils, the former unknown); or, a little later, "What steps would probably be taken to develop transportation between the Atlantic coast and the Northwest Territory after the settlement of the latter?" to be discussed before the textbook account is read. Other examples, in classes in modern history or in civics, would be, "What are the possibilities and weaknesses of socialism?" or "Which is more democratic, the government of England or that of the United States?" (See an elaborate example on page E93, below.)

Differentiated reports on observation. — Groups of members of the education class might be assigned different aspects of the observed recitation to report on, as follows:

Group I. Report on aspects I and II, pages 185–193, as illustrated in the lesson.

Group II. Report on aspects III and IV, pages 193–199.

Group III. Report on aspects discussed in pages 200–205.

Group IV. Report the main and subordinate problems taken up in the lesson, arranged and numbered (I, 1, 2, 3; II, 1, 2, 3, etc.) and expressed as far as possible in the words which the observed teacher used in formulating his questions.

Each report from Groups I, II, and III should contain *specific evidence giving examples* from the observed lesson to justify the points made in the report.

Preparation for first recitations. *Study pages 169–184 first.* — A general idea of the topic "problem-solving" may be secured from a study of the first fifteen pages of this chapter. These should be read rapidly and then studied carefully before reading the rest of the chapter.

Scope of exercises 1–12. — The first twelve exercises are based on the pages noted above and are intended to illustrate the following points:

(1) Problem-solving *in various school subjects*
(2) Problem-solving *in life*
(3) Problem-solving in the work of *a great scientist*
(4) *General nature* of problem-solving

Problem–Solving in School Subjects

1. *In education.* — How does this exercise book illustrate the discussion on page 171? Compare the title-page above.

2. *Conclusiveness of answers.* — In answering these exercises it is often *difficult* to determine the *correct* answer. Even educational *experts would disagree.* The *same* is true in solving problems *in other social sciences,* such as civics and sociology.

(*a*) How do the problems and answers in such cases differ from the problems and answers in algebra, physics, or Latin?

(*b*) Which type of problem and answer (noted in (*a*)) prevails most in *everyday life*?

(*c*) What are the *advantages* of each type of problem-solving (noted in (*a*)) from the standpoint of *teaching*?

3. *Source problems in history.* — Below are given a number of questions upon certain historical sources.

(*a*) Mark with *I* those of the source questions which seem to involve merely getting of *information* from the sources, and with *R* those which seem to involve a higher degree of *reflective* thinking.

(*b*) In terms of the distinction in (*a*), *in what order* do the source questions seem to be arranged? What are the advantages of this order?

(*c*) In what situations in *everyday life* would a person be likely to have to do the same type of problem-solving as is required in these source problems?

SOURCE MATERIAL FOR EXERCISE 3

The following set of questions from Duncalf and Krey, "Parallel Source Problems in Mediæval History," is given to guide students in the study of six original sources bearing upon the coronation of Charles the Great by the pope at Rome.

"QUESTIONS FOR STUDY

"(1) What reasons did Charles have for going to Italy?

"(2) How did Charles adjust the troubles at Rome?

"(3) Did Charles actually try the pope in the council that he assembled?

"(4) What reasons can you find for the oath of purification taken by the pope?

"(5) How did Charles deal with the enemies of Pope Leo?

"(6) Do the actions of Charles indicate that he had greater authority in the city of Rome than the pope?

"(7) What reasons can you find for Charles's sending such important *missi* to accompany Pope Leo back to Rome?

"(8) What was the pope's attitude toward Charles, and how did it affect the coronation?

"(9) Work out the details of the coronation ceremony.

"(10) By what right was Charles made emperor?

"(11) What evidence can you find which would indicate that Charles owed his title to the papacy?

"(12) From this evidence in the accounts, what do you think was Charles's attitude toward the Christian religion and the papacy?

"(13) How can you explain Einhard's statement that Charles was not eager to be crowned emperor?

"(14) What difference in point of view and what wrong information do you find in the account of the *Monk of St. Gall*?

"(15) Criticize the account from the Vita Leonis III by comparison with the other accounts.

" Other topics might consist of criticisms of the accounts given in standard secondary works by a comparison with the sources. The use of Bryce's " Holy Roman Empire " in this way would be an extremely profitable exercise."

4. *Problems before or after reading.* — (*a*) Should such questions as those given on pages 172–173 for a course in economics be taken up for class discussion before or after an ordinary textbook discussion of the same topics is read by the class? Why?

(*b*) What would be some *advantages* of taking them up *before*?

(*c*) Would the fact that the pupils could *not* discover the *correct answers invalidate* the idea of discussing the questions before reading?

(*d*) How *long* would you, as a teacher, have the class discuss the questions if they were taken up before the textbook treatment?

Problem-Solving in Life

5. *Information, reflective skill, and desires.* — Choose some one of the practical problems on pages 177–178; for example, the first in paragraph 1 or the first in paragraph 2. Show how your answer would be influenced by (1) your technical information (or lack of it), (2) your skill in thinking, and (3) your habitual and instinctive desires and interests.

6. *Practical dilemma.* — Describe the reflective thinking which you are doing (or have done) in some practical dilemma, such as how to spend a vacation, or how to secure a position; that is, give a *word picture of your mental processes. Write out your answer* (not more than two theme pages) *and hand it in.* Keep your example in mind in later discussions of problem-solving. Hamlet's famous soliloquy is an example from literature.

Scientific Problem–Solving

7. *Kepler's thinking.* — (*a*) Underline and mark with a *G* the most striking *general* statements in the quotation about Kepler on pages 180–182. Why striking?

(*b*) Underline and mark with *P* the qualities of Kepler which were *peculiar* to him.

(*c*) When you have the experience described in the stanza on page 181, what feeling accompanies it; for example, what exclamation do you tend to make?

General Characteristics of Problem–Solving

8. *Trial and error versus reasoning.* — (*a*) What similarity is there between the "trial and error" method of acquiring motor skill described on pages 102–106 and the statement that "all who discover truths must have reasoned upon many errors to obtain each truth," given on page 180?

(*b*) What difference?

9. *Origin of reflective thinking.* — (*a*) In the phrase "some difficulty that troubles him," at the bottom of page 183, does Dewey mean real *practical* difficulty and trouble?

(*b*) What words might be substituted for "difficulty" and "troubles"?

(*c*) Relate your answer to exercise 24 in Chapter IV, page E48.

10. *Pedagogical text.* — (*a*) As a text for a pedagogical discussion of reflective thinking, choose from the Dewey quotation on pages 183–184 the sentence that is most terse and at the same time full of meaning. (*Underline and label "text."*)

(*b*) Evaluate the rhetorical placing of this sentence.

11. *Training to think.* — What does the expression "training pupils to think" mean? Answer in terms of pages 183–185.

12. *Correct start.* — From the standpoint of forming correct mental habits in problem-solving, what would the "correct start" consist of in teaching geometry?

Special Aspects of Problem-Solving

Study pages 185–200. — Pages 185–200 should be read rapidly as a unit and then studied carefully to understand the four main aspects of problem-solving outlined at the top of page 185.

I. Defining the Problem and Keeping it in Mind

13. *Mechanical aids.* — (*a*) Show how italicizing certain words in exercise 7, above, helps the reader to get the problems in mind.

(*b*) Underline words in exercise 8 so as to make the problem easier to grasp.

14. *Pupil off the point.* — (*a*) In the following history-teaching situation *what would you have said* to the wandering pupil? Why?

(*b*) What part of the text discussion does your answer illustrate?

A seventh-grade history class was discussing the problem of developing transportation between the Atlantic coast states and the Northwest Territory. Early in the hour a pupil suggested that *ships* would carry produce down the Ohio and Mississippi to

New Orleans, through the Gulf and *up the Atlantic coast.* After some discussion most of the class decided that this was impracticable. Toward the end of the period the pupils were working on the suggestion of building a *canal from the Great Lakes* eastward, and were searching on their maps for possible routes. In the midst of the discussion a child began to *argue anew* the question of shipping by way of New Orleans.

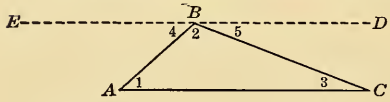
II. Fertility of Suggestion

15. *Meaning of a phrase.* — What is the force of the phrase "other things being equal," which occurs in the twelfth line from the bottom of page 187; that is, what are the "other things" which must be equal?

16. *Extreme types.* — In the matter of making suggestions we find two extreme types of students: one is *glib* and always wants to talk, and the other is *overinhibited* and afraid to utter his suggestions. How would you deal with *each* type in problem-solving discussions?

17. *Solving originals in geometry.* — In the following account of a pupil's thinking in solving a geometry exercise, label each step as follows: with *A* if it is primarily *analysis*; with *G* if it is primarily forming a *guess* or hypothesis; and with *R* if it is primarily the *recall* or use of a previously proved proposition or an axiom.

The figure and two statements beside it are given below:



To prove $\angle 1 + \angle 2 + \angle 3 = 2$ rt. $\angle$s.

EBD is parallel to *AC*.

The pupil proceeds as follows:

(1) Looks at $\angle 2$ primarily, swinging his attention, as it were, around it.

(2) Does the same with $\angle 1$.

(3) Does the same with $\angle 3$.

(4) Thinks "Maybe $\angle 2 = \angle 4 + \angle 5$."

(5) Thinks "Maybe $\angle 2 = \angle 1 + \angle 4$."

(6) Thinks "$\angle 4 + \angle 2 + \angle 5 = 2$ rt. $\angle$s."

(7) Thinks "Looks like $\angle 1 = \angle 4$, and $\angle 3 = \angle 5$; I wonder if they are."

(8) Continues to look at and think of possible combinations, $\angle 1 = \angle 4$ and $\angle 3 = \angle 5$, and gradually gets this sort of picture hazily:

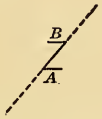
$$\begin{matrix}\angle 4\\ \angle 1\end{matrix} + \angle 2 + \begin{matrix}\angle 5\\ \angle 3\end{matrix}$$

(9) Thinks "If I could prove that ($\angle 1 = \angle 4$ and $\angle 3 = \angle 5$) I'd have it, because $\angle 4 + \angle 2 + \angle 5 = 2$ rt. $\angle$s."

(10) Centers attention on $\angle 1$ and $\angle 4$ in the figure.

(11) Thinks "That looks like a Z."

(12) Takes a pencil and prolongs AB thus:



(13) Thinks "Jimminy, $\angle 1$ and $\angle 4$ are alternate interior $\angle$s, and AB is a transversal."

(14) Writes out his proof, beginning with the idea in number 13.

18. *Geometer's sagacity.* — Near the bottom of page 191 is a sentence beginning, "To think, without assistance, of." Explain why the fact expressed in this sentence is probably true. Secure help from the last sentence in the quotation at the top of page 190.

19. *Excusing from geometry.* — (*a*) If a student could n't prove the geometry exercise described on page 192, after having all of the suggestions on 192–193, should he study geometry? Why?

(*b*) Are there any such pupils in high schools? Explain.

III. Critical Evaluation of Suggestions

20. *Wit versus science.* — (*a*) Contrast the scintillating wit and the scientist from the standpoint of the critical evaluation of suggestions.

(*b*) Is the contrast necessarily the same as the one expressed in the next to last sentence on page 193? Explain.

21. *In sickness.* — Sometimes in the case of sickness, even *good* thinkers behave as described in the second part of the second sentence at the top of page 186. What part

of the quotation from Dewey at the bottom of page 184 explains this fact? (*Underline and label it Ex. 21.*)

22. *Newspaper rumors.* — Give an example from current newspapers of the necessity of suspended conclusion and the critical evaluation of evidence.

23. *Quibbling.* — Students in class often impede problem-solving by the persistent reiteration of apparent objections which are mere verbal quibbles. In one such case a teacher disposed of the student's interference by saying, "Let 's not be foolish." What remark would you make in such cases?

24. *Sources of verification.* — (*a*) Which of the following sources of verification are *most commonly used* in problem-solving in school work? Explain.

(*b*) Which *should be emphasized* in high-school subjects?

(1) Parents' opinion
(2) Encyclopædia or dictionary
(3) A *single* special treatise published by an expert
(4) Teacher's opinion
(5) Newspaper statements
(6) Comparison of *several* special treatises
(7) Students' own inferences and evidence
(8) A single textbook
(9) An answer book

25. *Galton's rank.* — (*a*) Do you think Galton would rank high as a scientist, judging merely from his *idea* of using data from twins as a basis for testing hypotheses about heredity and environment as described on page 197?

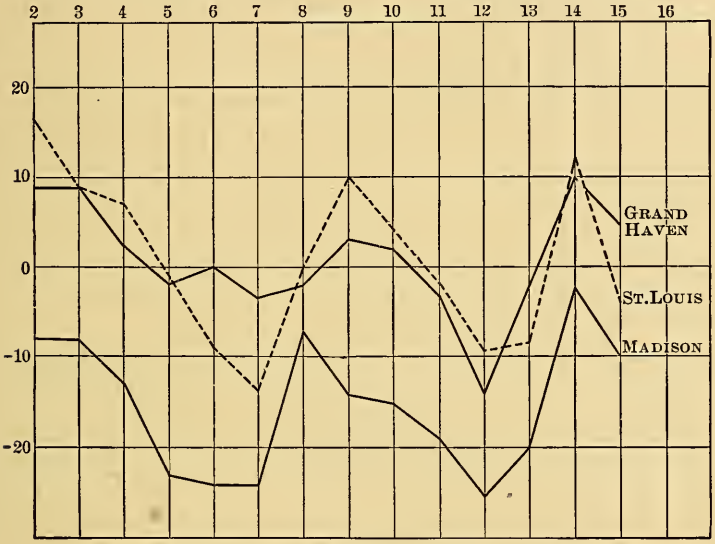
(*b*) Have you ever heard of a method as *simple* or *conclusive* as Galton's for scientific testing of *these* hypotheses?

(*c*) Was Newton's idea of using the moon's behavior for verifying universal gravitation, as described on pages 196–197, *more* or *less* brilliant than Galton's idea? Why?

IV. Organizing the Material of Thinking

26. *In debating.* — Show the part played in debating by the process described in the paragraph at the bottom of page 198.

27. *Graphic organization.* — (*a*) Show how the following graphic representation of temperature data would aid pupils in solving the problem, "What is the influence of Lake Michigan on the climate of the surrounding territory?"



TEMPERATURES DURING A COLD WAVE

The diagram represents the variation in temperatures between three cities on the dates January 2 to January 15, 1913. Grand Haven is on the eastern shore of Lake Michigan, in the latitude of Madison, Wis., but its temperature is like that of St. Louis. From Caldwell and Eikenberry's "General Science" (Ginn and Company, 1918)

(*b*) Compare the curves on page 145 and those on page 373. Which set better illustrates the discussion on page 199? Why?

Opportunities for Training in Reflective Thinking

28. *Quality versus quantity in geometry.* — If the sentence beginning in the second line on page 201 were applied in an extremely *radical* fashion to the study of geometry, how *many* of the five books in plane geometry would the

ordinary student complete in one year's work? (Compare the quotation beginning at the bottom of page 203.)

29. *Does silent participation give exercise?* — (*a*) Explain more fully than is done at the top of page 202 how *slow* students may be "in the running" and profit accordingly.

(*b*) If they did n't forge ahead, would n't they become discouraged and simply look on?

30. *Through imitation.* — Considering the teacher as a model in problem-solving, which of the phases summarized on pages 199–200 could be most *readily imitated* by students? Explain.

31. *Sample lessons in social science.* — After reading the following plans for conducting a high-school class while solving a *large* problem, *write* one or two theme pages to hand in, on the following topics or questions:

(*a*) Show specifically how the lessons give training in *scientific thinking* in the sense in which this term is used on page E12, above, and on page 504 of the text.

(*b*) Show specifically how the lessons clear up in your mind some of the points in Parker's suggestions for guiding problem-solving by pupils.

(*c*) Does the sequential appearance of the four main processes (I, II, III, IV) in the arrangement of the plan indicate that each of the processes is *finished completely* before another begins, *or* does it indicate that one after another *predominates* at certain stages of the work? Explain.

(*d*) Answer (*c*) for the thinking done by a single pupil while puzzling over the problem.

(*e*) How many *years of experience* in teaching would you need before you could organize independently such lessons?

(*f*) What values inhere in such lessons that are not found in the use of *ready-made* exercises such as Parker's?

(*g*) How many years of experience would you need before you could teach successfully with ready-made exercises?

(*h*) Summarize your conclusion from (*e*), (*f*), and (*g*).

SOLVING A PROBLEM IN SOCIAL SCIENCE

Lessons conducted and described

By J. M. McConnel

North East High School, Detroit, Michigan

Class: 20 high-school seniors

First day: 10 minutes, defining the problem.
Second day: 20 minutes, suggested hypotheses.
Third day: 40 minutes } evaluating and organizing material.
Fourth day: 40 minutes }

The four principal phases of the teaching are

I. Clearly defining the problem
II. Stimulating suggestions by the pupils
III. Evaluating suggestions
IV. Organizing the materials of the thinking

I. Clearly defining the problem

(*a*) *In the teacher's own mind:*

The teacher must have more than a general notion of what he wishes the class to study. He should in his own thinking have worked out carefully the *object* and *purposes* of the study, and have a *concise* statement of each.

(*b*) *In the pupil's mind* (*about ten minutes the first day*):

(1) Give the pupils a concise statement of the problem; they *must* adopt the same wording.

(2) Work out carefully the *implications* of the *wording*.

(3) Develop the *importance* of such a study.

Problem: To find the relation, *if any*, between *little* or *no* education and *delinquency*. Its implications may be noted as follows:

(*a*) "If any" — not an attempt to prove that there is a relation, but an open-minded attempt to get at the truth; prejudice and preconceived opinions of the relation must be discarded.

(*b*) "Little or no education" — a better term than illiteracy; a person having only fourth-grade education is not unlettered.

(*c*) "Delinquency" — coming into contact with the law in a penal or correctional way.

(*d*) A brief discussion showing the importance of the problem.

II. Stimulating suggestions by the pupils

Encourage pupils

(*a*) to *analyze the situation*;

(*b*) to *formulate definite hypotheses* and to recall general rules or principles that may apply.

Assignment for the second day:

(*a*) To make a list of the relations that seem probable and the general rules or principles applying.

(*b*) To outline the various ways of getting data on the problem.

Recitation on the second day (*about twenty minutes*).

The work on the second day consists of summarizing the statements of hypotheses and methods brought in by the students. This provides a *fair analysis* and gives some *definite hypotheses* for further work upon it in the third step, critical evaluation.

(*a*) *Hypotheses suggested by pupils or teacher* (general rules and principles):

(1) Uneducated — ignorant of laws, violate them unknowingly.

(2) Uneducated — low class of work, small pay, more liable to commit offenses against property.

(3) Uneducated — don't know how *harmlessly* to enjoy leisure.

(4) Uneducated — first to be unemployed; idleness; in trouble.

(5) Can be used as *tools* by intelligent crooks.

(6) Ignorant poor must pay penalty, guilty rich escape.

(7) Many men of preëminence had no school training.

(*b*) *Methods of procedure, suggested by pupils or teacher:*

(1) Ask someone.

(2) "Look it up" in the library.

(3) Recall cases you have known.

(4) Trace pupils from one particular school — those quitting early and those finishing the course.

(5) Study juvenile-court reports; police commissioner's reports.

(6) Get data from penal and correctional institutions as to educational record of inmates.

III. Evaluating suggestions

(*a*) Open-mindedly criticize each suggestion.

(*b*) Systematically select and reject.

(*c*) Verify conclusions.

Assignment for the third day:

(*a*) Each pupil critically to evaluate two or three of the above suggestions.

(*b*) Two pupils exempt from (*a*) to study some sample reports of institutions and thus evaluate the method (6) (*b*) above.

Recitation on the third day; forty minutes:

(*a*) *In evaluating hypotheses show:*

(1) that mere *opinion* is the basis of most of them;

(2) the difficulty of *isolating* the factor, lack of education, in many cases;

(3) that a general rule cannot be established by observation *at random*;

(4) that most of these suggestions imply that a *certain* relation necessarily exists. We must guard against this.

(*b*) *In evaluating suggested methods of procedure show:*

(1) that the first two methods would get *mere opinions*;

(2) that the next two would get insufficient data;

(3) that the last two are the nearest to scientific methods.

(*c*) *Reject hypotheses and methods of procedure in which:*

(1) mere opinion predominates;

(2) only fragmentary unsystematic data can be secured;

(3) factors cannot be sufficiently isolated for study.

(*d*) *Work on that hypothesis, by that method under which:*

(1) *tangible* data can be *open-mindedly* gathered;

(2) *scientifically* arranged, so that some *factor* may be *isolated* and seen in its *relations*;

(3) *verified* by further data or the conclusions of other investigators.

IV. Organizing the materials of thinking

The study of *data obtained from reports* of penal and correctional institutions and courts involves careful organization and tabulation and often graphing.

Assignments for the fourth day:

(*a*) Special reports to be assigned to individuals.

(*b*) Literacy statistics of the state to be looked up by some.

(*c*) Diagrams and charts showing findings to be placed on the board.

Conclusions:

The work outlined above is to be continued until the *following conclusions may be definitely established*:

(*a*) That an *overwhelming* percentage of delinquents have little or no education.

(*b*) That the factor, lack of education, can never be clearly isolated; hence we cannot say that a causal relation exists.

(*c*) But we are justified in saying, other things being equal, that education very materially lessens one's chances of becoming a delinquent.

Additional Bibliography

Dodge, R. E., and Kirchway, C. B. Geography in Normal Schools and Secondary Schools. (*Teachers College Record*, March, 1914, Vol. XV, pp. 71–137.) Contains very suggestive preliminary problem-solving lessons as the introduction to the regional geography of the United States.

CHAPTER IX (CONTINUED)

REFLECTIVE THINKING (CONTINUED)

SECTION II. ACQUIRING ABSTRACT AND GENERAL MEANINGS

Plan of exercises. — After three exercises on technical versus popular meanings, the remaining exercises are intended to illustrate the following summary of the technique or rules to be followed in teaching abstract and general meanings.

(1) Assure *real experiences* of carefully selected typical examples.
(2) Require *active analytical study and comparison* of these examples.
(3) Aid the students to keep *summarizing* the meaning or rule, eventually reaching a clear, precise statement of it.
(4) Provide problems or exercises to give *practice in recognizing and using* the new idea in new complex situations.

Be sure to discuss exercises 13 and 14. — They contain excellent practical examples.

TECHNICAL VERSUS POPULAR MEANINGS

1. *Contrasts.* — Choose *one* of the terms given as examples at the top of page 223 (except *mass* and *sensation*) and show the contrast between its popular meaning and its technical meaning in some science.

2. *Forgotten meanings.* — In case you once knew but have now forgotten the technical meanings of some of the abstract terms listed on pages 205–206, what good *did* you derive from studying them?

3. *Feelings of meaning.* — In case you have forgotten the exact technical meaning noted in exercise 2, but have retained a rough "feeling of the meaning," of what value is this meaning to you?

1. Personal Experiences of Examples

4. *Single example.* — (*a*) Is the single example (namely, learning about bacteria) which Parker gives *sufficient* to make clear to you the manner in which a new abstract meaning is learned in everyday life? Why? (Compare the quotation on page 216.)

(*b*) Test your understanding of the process of learning abstractions by giving a description of the manner in which an ordinary individual (for example, yourself) acquires in everyday life an idea of "socialism." (See below, p. E219, exercise 11, for a lesson on socialism.)

5. *Lack of personal experience.* — If a person does not have (or is not provided with) the personal experiences necessary for *understanding* a new abstraction as described by Dewey (in the quotation beginning at the bottom of page 217), *what does he get* out of the instruction? (Don't answer this question too hastily.)

6. *Characteristics of good examples.* — Thorndike says that in a good example for teaching a new abstraction, the abstracted element is *obtrusive* and *without irrelevant detail.* Evaluate in these terms the following device for introducing the study of the equation in algebra.

"In making a study of the equation we must begin with some very simple problems in order that we may clearly understand the new laws to be developed. If these laws are mastered in connection with simple cases, it will be easy to apply them later to more complicated and difficult cases.

"A bag of grain of unknown weight, *w* ounces, together with an 8-oz. weight just balances an 18-oz. weight. How much does the bag of grain weigh?

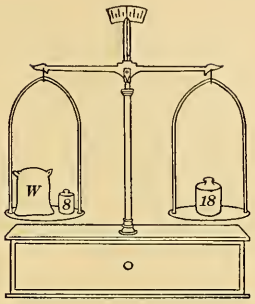
"The problem may be stated in an equation, thus:

$w + 8 = 18$. Find w.

"Suppose 8 oz. to be taken from each pan, giving

$w = 10$.

"The bag of grain weighs 10 oz."



2. Active Analysis

7. *Individual differences.* — (*a*) From the standpoint of the paragraph in the middle of page 220 evaluate most recitations with which you are familiar.

(*b*) What practical change would you suggest?

3. Defining

8. *Necessity of verbal definition.* — (*a*) What is a *definition*?

(*b*) Does Parker define the term "definition" anywhere in his discussions on pages 220–225?

(*c*) Should he have done so to make the points in his discussion clear? Why?

(*d*) What bearing does your answer to (*c*) have on the teaching of definitions? (Compare the quotation from Dewey on page 226.)

4. Practice in Using

9. *Types of exercises.* — Which of the following exercises gives better practice in using newly acquired ideas of *tense*, those headed "Label examples" or those headed "Give examples"? Why?

"*Label examples.* — Write under each verb in the sentences below what tense it is in (as is done in the first line).

"It is hotter this summer than it was last summer. It will be
present past
cold enough in the winter. The sun will rise later and set earlier.

Evening came so soon last November that the lights were being lit in the house when I reached home from school. We do not light them now till after seven. You can see that it is quite light now though the bells are ringing seven.

"Did they send up my trunk from the station? No. They would not promise that it should be sent without a check. If you will send them the check, it will be sent. I shall be passing the office this evening, anyway. Won't it be open? It used to be open evenings.

"*Give examples.*—Write two sentences, each with a verb in the *present* tense.

"Write two sentences, each with a verb in the *past* tense.

"Write two sentences, each with a verb in the *future* tense."—From Thorndike's "Principles of Teaching"

10. *Practice in making exercises.*—(*a*) Write out one exercise to be used in discussing this section of Chapter IX, and hand it in. It may raise some question about the subject which you would like to hear discussed. Avoid the "give-an-example" type of exercise. To be of greatest value your exercise should have the following characteristics:

(1) *Apply* a specific discussion in the *textbook.*

(2) *Raise an issue of practical importance in teaching.*

(3) Set a *problem* which requires *reflective thinking.*

(4) *Appeal* to the *interests* of college juniors and seniors who expect to teach.

(5) *Be not too easy*, thus avoiding bluffing.

(6) *Be not too difficult*, thus avoiding discouragement.

(7) *Contain* actual *data* needed instead of requiring students to secure data.

(*b*) Indicate which of these characteristics you have most difficulty in securing in your exercise.

11. *Abstractions and problem-solving.*—To illustrate the discussion on pages 226–228, show how some of the abstract or general ideas listed on pages 205–206 were useful to you in solving problems in school or out.

General Applications of the Rules for Teaching Abstractions

12. *Parker's theory and practice.* — In this section of Chapter IX Parker has been trying to teach or explain the nature of a particular abstract or general idea; namely, "how to teach abstract and general meanings." Indicate in some detail the extent to which he follows or departs in his own writing from the principles which he describes in this section.

13. *Analysis of a lesson plan on "Work" in general science.*—(*a*) In the lesson plan on "Work" given below *label* each question as follows (some questions may take more than one label):

Px., if it involves *pupils' providing experiences* or examples.
Tx., if it involves the *teacher's providing experiences* or examples.
Com., if it involves *comparison.*
Ab., if it involves *abstracting.*
Def., if it involves *defining.*
Pr., if it involves *practice in using* the abstracted idea.

(*b*) In case a question is labeled *Com.*, state what is compared.

(*c*) In case a question is labeled *Ab.*, name the *abstracted element.*

(*d*) Are the above labels adequate for questions (4) and (16)? What is the main purpose of these questions?

A LESSON ON "WORK"

Description of the lesson. — The following lesson was taught by a conversational method before the textbook treatment of the subject was read. Naturally, the topic is merely introduced in this lesson, not completed. The pupils had had the work in general science outlined on page 88 of Parker's text through topic XVIII. The teacher's general plan was as follows:

I. To *begin* with the ordinary *popular* meaning of the term "work" as understood by the pupils.

II. To *make a transition* to the restricted *technical* meaning of the term as used in physics.

III. To *define* the latter exactly.

IV. To give *practice* in using the new meaning.

Each of the questions listed below called forth several minutes of discussion between pupil and teacher, including in each case several subordinate questions by the latter.

Topic.—Work (as used in physics)
Class.—First-Year High-School General Science

Outline of Subject Matter

I. Running water and work
II. Kind of work done or seen
III. Common characteristic (movement)
IV. Comparison of hardness
V. Other characteristic (force)
VI. Definition of work
Application
(*a*) Leaning against desk
(*b*) Pushing against desk
(*c*) Horse on hill
VII. Measurement of work
(*a*) Climbing stairs
(*b*) Monilaw (a thin boy) versus Fitzgerald (a fat boy)
(*c*) Units for measurement
Foot pound

Outline of Method of Class Procedure in Form of Questions

You will remember that the last chapter which we took up was called "Work by Running Water."

(1) How does running water work?

(2) Have you done any work this morning?

(3) On your road to school did you see any one working? What was he doing? (Ask several students to tabulate different kinds of work.)

(4) When a person is doing any of the above things we say he is working. What then is work?

(5) What is one characteristic which is common to all of the different kinds of work which we have listed? (Movement)

(6) Which one of the kinds of work we have listed is the hardest?

(7) What then is another element besides movement which enters into work? (Force)

(8) Let 's put the two elements together. (Write on the blackboard "Force Movement.") How would you now define work?

(9) Suppose I lean up against this desk, am I doing any work?

(10) Suppose I push against the desk, am I now doing any work? Why?

(11) A horse is pulling a load up a hill; when he gets to the middle of the hill he is stalled; all he can do is to keep the load from running back down the hill. Is the horse working?

(12) Miss ——, you said you had n't done any work this morning. Would you still say that?

(13) One kind of work is climbing the stairs. Who did the most work in climbing the stairs, Mr. Monilaw (a thin boy) or Mr. Fitzgerald (a fat boy)? Why?

(14) How much more work did Fitzgerald do than Monilaw?

(15) Upon what does the amount of work depend?

(16) How shall we measure it?

14. *Analysis of a stenographic report of a lesson on participles.* — Analyze the lesson reported below and *write* in concise outline form how it illustrates the phases of teaching abstractions summarized above, on page E97. Give *evidence* for your points by reference to the numbers or inclusive numbers of the teacher's questions and remarks.

STENOGRAPHIC REPORT OF A LESSON

Topic of lesson. — Participles.

Class. — Seventh Grade of the Elementary School of the School of Education, The University of Chicago. This would correspond to a Junior High-School class in some schools.

Teacher. — Miss Eleanor Lally.

Time. — Thirty minutes.

Report. — A stenographer took shorthand notes of everything that the teacher and pupils said. The stenographer's report is reproduced below, preceded by a copy of the sentences which were ready on the blackboard at the beginning of the hour.

Two Sets of Sentences written on Blackboard for Lesson on Participles

First set

(1) Hiawatha killed the red deer.
(2) The broad stream flows through our meadow.
(3) He was a lonely, unhappy miser.
(4) The happy boy sang as he climbed the hill.
(5) He is writing a letter.
(6) The boys are trudging up the slope.

Second set

(1) The deer, pausing a moment to listen, bounded away to safety.
(2) The stream, winding through the meadow, flows to the sea.
(3) Lifting the lid of the box, the miser found his money stolen.
(4) The boys, struggling up the slope, soon reached the top.
(5) Uncle Tom was in his armchair, rocking slowly.
(6) The boy sitting by the window is my pupil.
(7) The tiger, crouching in the tall grass, was snarling defiance.
(8) Looking more closely, I saw a black snake among the weeds.
(9) "And children coming home from school
Look in at the open door."
(10) "Toiling, — rejoicing, — sorrowing,
Onward through life he goes."
(11) We sat about the fire, listening to stories of old times.

The Lesson

(1) Teacher. *Have pencil and paper on your desk, please. I want some good thinking, to-day, children. We are going to develop a new notion, a new idea, in grammar that you have never had. If*

you see a new idea here suggested on the board, — we have touched upon it a number of times in our sentence study, — I should be glad if you would not mention the name of the new word. There is in these sentences a word whose use you are not thoroughly acquainted with. That word is to be made the basis of this half-hour's lesson. My aim is to teach you to learn three things about that particular word. Watch for them. First of all, we shall review the adjective and the verb. Read this sentence and tell me about the adjective in it.

PUPIL. "Hiawatha killed the red deer." "Red" is an adjective which modifies the noun "deer."

(2) T. *What is the adjective in the second sentence, Vance?*

P. "The broad stream flows through our meadow." "Broad" is an adjective which modifies the subject "stream."

(3) T. *The third sentence — find the adjective.*

P. "He was a lonely, unhappy miser." "Unhappy" is an adjective modifying "miser."

(4) T. *Another one? Mary?*

P. "Lonely."

(5) T. *An adjective in the next sentence?*

P. "The happy boy sang as he climbed a hill." "Happy" is an adjective modifying "boy."

(6) T. *Let us turn our attention to the asserting verbs in these sentences. What is the verb in the first sentence?*

P. "Killed."

(7) T. *Why?*

P. Because it tells what Hiawatha killed. It tells what he did.

(8) T. *Asserts something of the subject "Hiawatha." Now will you recite, Harold?*

P. "Killed" is the verb because it asserts something of the subject "Hiawatha."

(9) T. *Who sees an asserting verb in the next sentence? Jack?*

P. "Flows."

(10) T. *Why?*

P. Because it asserts something of "stream."

(11) T. *Of the subject "stream." Who sees an asserting verb in the next sentence? Christina?*

P. "Was."

(12) T. *Why?*

P. Because it does n't assert, but it is a verb.

(13) T. *It says something, "he was." It asserts. Why?*

1ST P. Because it expresses action.

2D P. Does it express action?

(14) T. *No, but it makes an assertion about the subject. Is that clear now?*

P. Yes.

(15) T. *Who sees an asserting verb in the next one? Maud?*

P. "Sang," because it tells the action performed by the boy.

(16) T. *Tells the action performed by the boy. Who sees the whole asserting verb of this sentence? Howard?*

P. "Is writing."

(17) T. *Why?*

P. Because it asserts what "he," the subject, is doing.

(18) T. *What is the helping verb?*

P. "Is."

(19) T. *What is the main verb?*

P. "Writing."

(20) T. *The entire verb is?*

P. "Is writing."

(21) T. *Who sees an asserting verb in the next sentence? Katherine?*

P. "Are trudging," because it asserts something expressed by the subject.

(22) T. *The assertion is expressed by "are trudging." It asserts an action performed by the boys. Yes, the boys are trudging. What is the helping verb?*

P. "Are."

(23) T. *And the main verb?*

P. "Trudging."

(24) T. *Now you have reviewed two parts of speech, verbs and adjectives. What are adjectives?*

P. Adjectives are words that modify nouns.

(25) T. *Or pronouns. What are verbs? John?*

P. They express motion. "He ran." "Ran" is the verb because it expresses motion.

(26) T. *Who can give me a complete definition of a verb?*

P. A verb is a word that asserts action or being.

(27) T. *We have reviewed verbs and adjectives. Later you will see the reason for this review. Who sees in the new work here a new word whose use we have never really studied in class? Be very careful. It is a new word, a new expression. We have never given any study to it. What do you want to do about this new word? Who will state now what the class's aim is?*

P. We want to find out what is is; [pupil hesitates and repeats] what it is, and know how it is used, and what it is used for. We want to give a definition.

(28) T. *And finally to be able to give a definition. That is a good word. What are we going to do, class? To find out what this new word is, how it is used, where it comes from, and to make a definition. Let us see if we can do that in the moments remaining. Who would like to recite about the new word there?*

P. Should I say what it is?

(29) T. *Yes, tell me what it is. What is the new word in that first sentence?*

P. "Pausing."

(30) T. *How many think so? Who sees the new word in the next sentence?* (Reads it.)

P. "Winding."

(31) T. *In the next sentence?* (Reads it.) *Katherine?*

P. "Lifting."

(32) T. *Who sees it in the next sentence?*

P. "Struggling."

(33) T. *In the next one? Jack?*

P. "Rocking."

(34) T. "*The boy sitting by the window is my pupil.*" *What is it here?*

P. "Sitting."

(35) T. *Let us go back to the first. Read the sentence aloud. Listen and tell me the asserting verb in the sentence.*

P. "The deer, pausing a moment to listen, bounded away to safety." "Bounded" is the necessary verb.

(36) T. *Yes, the asserting verb in the sentence. Now if you think you know the name of this word, please don't say it yet, because you*

are not sure yet. Who understands the use of this word? Why do we use that word "pausing"?

P. It helps to modify; tells what it does.

(37) T. *It helps to modify what?*

1ST P. It helps to modify the noun "deer."

2D P. And it is somewhat like a verb too.

(38) T. *It resembles a verb. But is it an asserting verb?*

P. No, it seems as if it were an adjective too.

(39) T. *It seems as if it were an adjective, and it seems as if it were a verb. What verb does this come from?*

P. "Pause."

(40) T. *It is derived from the verb "pause" and is used to modify "deer." Gather that up and tell me what you know about "pausing."*

P. "Pausing" is a word derived from the verb "pause," and it is used as an adjective to modify the noun "deer."

(41) T. *Mary has found two things about that. What, class? Where it comes from and how it is used. Who will take this one? Christina? Tell me two things about this one.*

P. "Winding." Modifies "stream," used as an adjective, and derived from the word "wind."

(42) T. *Who will tell me about this one?* (Reads, "Lifting the," etc.) *Jack?*

P. "Lifting" is used as an adjective modifying "box," and it is also derived from the verb "lifting."

(43) T. *It is derived from the verb "lift," but the box did the lifting, did it? Does "lifting" modify "box"?*

P. Modifies "lid."

(44) T. *Oh, it is the lid that lifted something, is it?*

P. The miser. Oh, I see.

(45) T. *Now, stand and recite about "lifting."*

P. "Lifting" is used as an adjective modifying "miser," and it is also derived from the verb "lift."

(46) T. *Who is ready to tell me about this one? Harold?*

P. "Struggling" is derived from the word "struggle," and it is an adjective modifying the noun "boys."

(47) T. *This one?* (Reads, "Uncle Tom," etc.) *Edward?*

P. "Rocking" is used as an adjective modifying "Uncle Tom," and it is derived from the verb "rock."

(48) T. *This one? Vance?* (Reads, "The boy," etc.)

P. "Sitting" is an adjective modifying "boy" and is derived from the verb "sit."

(49) T. *It is one form of the verb "sit" and is used as an adjective modifying "boy."*

P. Yes.

(50) T. *Now we have learned two things about each one of these words. Who will state what is true of each one of these words?*

P. They end in "i-n-g."

(51) T. *Yes, they all end in "i-n-g." Tell me the important thing.*

P. They modify nouns.

(52) T. *And they come from — ?*

P. They come from verbs.

(53) T. *Who will state the two things without my helping at all? Mary?*

P. How shall I begin?

(54) T. *The words we are studying —*

P. The words we are studying are used as adjectives and are derived from verbs.

(55) T. *Verbs, yes. How many here think you know the name of this word? I don't think you do. Well, we will see. First, I want to see if you can suggest something else about this word that you have n't mentioned. We have made two points — used as an adjective and derived from a verb. We could call it a verbal adjective, a perfectly good name. Who sees something else about this word?*

P. Well, it ends in "i-n-g," too.

(56) T. *Yes, that is not so important, however. Something else? Christina?*

P. They are all verbs of, well, of sort of clauses. They have no subject, but the subject of the whole sentence is the subject of the clause and those are the verbs of them.

(57) T. *What is the clause?* (Reads, "The deer bounded away to safety.") *Now what is your clause left over?*

P. "Pausing a moment to listen."

(58) T. *Is that a clause?*

P. Well, it is in a way.

(59) T. *What is the subject?*

P. It has n't got any subject of its own.

(60) T. *If it has n't a subject and predicate, it is n't a clause. It is n't a clause. Now what is it?*

P. Phrase.

(61) T. *Yes, it is a sort of phrase, and the whole phrase modifies the noun. Let us take this one. "The stream," etc. We have n't talked about the rest of this phrase. Walter Clyde?*

P. They all have a direct object, and "the meadow" is it.

(62) T. *Winding where?*

P. Through the meadow.

(63) T. *Who is ready to tell me what "through the meadow" is?*

P. "Through the meadow" is an adverbial phrase modifying "winding."

(64) T. *It takes an adverbial modifier, that one does. What does this one do? Who is ready to say what this one does, — "The miser, lifting the lid of the box"? Christina?*

P. "Lid" is an object of the verb "lifting" — of the verbal adjective "lifting."

(65) T. *Of the verbal adjective "lifting." Who ever heard of an adjective taking an object? Never heard of it before, but it does. "Of the box," of course, is just a phrase. What about the rest of this phrase "struggling up the slope"? Katherine?*

P. Well, it joins the — joins two clauses.

(66) T. *What is your verbal adjective?*

P. "Struggle." Oh, "struggling."

(67) T. "*Struggling.*" *This word took an object; does this one take an object? Struggling where, Katherine?*

P. Up the slope.

(68) T. *What does this one take, then? Help her. Vera?*

P. Adverbial phrase.

(69) T. *Stand and say it.*

P. "Up the slope" is an adverbial phrase modifying "struggling."

(70) T. *What may these verbal adjectives have with them in the whole phrase?*

P. Object.

(71) T. *Either an object or a phrase. How then are they like verbs, very like verbs? Two reasons, Christina?*

P. They are like verbs because they can take objects or phrases, adverbial phrase modifiers, and they express action in their phrase.

(72) T. *What is the third thing, then, which we have learned about these new words? That they are so like verbs that they will take what?*

P. Objects, and then they can take phrase modifiers.

(73) T. *Do they ever take single-word modifiers?*

P. No.

(74) T. *Look and see.*

P. Yes, they can.

(75) T. *Explain it.*

P. Well, "rocking" — "slowly" is an adverb modifying "rocking."

(76) T. *What is "rocking"?*

P. "Rocking" is a verbal adjective.

(77) T. *Now what may modify these verbal adjectives, then?*

P. Adverbs and adverbial phrases.

(78) T. *Adverbs and adverbial phrases. What other evidences that they are verbal in their nature have we other than that?*

P. They can take an object.

(79) T. *How do they differ from the real predicate that does assert action? Who will compare "bounded" and "pausing"? Is that too hard for this class?*

P. Well, one 's where he stopped and one is where he went.

(80) T. *What is this, Katherine?*

P. It 's a verb.

(81) T. *Predicate verb asserting the thing that the verb did. Now I did that comparing for you. A stronger class would have done that comparing. Who is ready to compare?*

P. "Winding" is an adjective modifying "stream," and "flows" is a verb which asserts something of the subject.

(82) T. *Yes, that is all. How many see the difference between this verbal modifier, this verbal adjective, which is not an asserting verb, and the asserting verb? Which is the asserting verb in this sentence: "The boy, struggling," etc.? What is the asserting verb in that sentence?*

P. "Reached."

(83) T. *What is the verbal adjective in that sentence?*

P. "Struggling."

(84) T. (Reads, "Uncle Tom," etc.) *I want the asserting verb in that sentence.*

P. "Was."

(85) T. *What is the verbal adjective there?*

P. "Rocking."

(86) T. *Who can use "rocking" and make it a part of the asserting verb so that it is not an adjective at all?*

P. He was rocking to and fro.

(87) T. *But if I say "Uncle Tom, rocking to and fro, heard the music," what is "rocking" there?*

P. It is a verbal adjective.

(88) T. *What modifies "deer" in this sentence?*

P. "Red."

(89) T. *What modifies "deer" in this sentence?*

P. "Pausing."

(90) T. *Mary, you may compare "pausing" and "red." Are they alike in any way? Are they different in any way?*

P. Well, they are alike because they are both adjectives and they both modify "deer," and they are different because one sort of shows action and the other does n't. One is a verbal adjective and one is an adjective.

(91) T. *Plain, ordinary adjective. Good recitation, Mary. Who will take the second sentence? Compare the verbal adjective here with the other adjective here. "The broad stream," etc.*

P. "Broad" there is like "winding" because it modifies "stream," but "winding" shows action and "broad" does n't.

(92) T. *So "winding" is — ?*

P. "Winding" is a verbal adjective and "broad" is an ordinary adjective.

(93) T. *Is an ordinary adjective. Who will take the "lonely, unhappy miser"? Is there a modifier over there of "miser"? Compare the third sentences. Compare those modifiers. Our time is slipping. Well, what adjective modifies "miser" over here? Katherine, do it.*

P. "Lifting." "Lifting" modifies "miser," and "lonely" and "unhappy" modify "miser" in that sentence, but "lonely"

and "unhappy" are adjectives modifying "miser," and "lifting" is a verbal adjective modifying "miser" in that sentence.

(94) T. *Any questions?*

P. How do you diagram them?

(95) T. *We'll take that up later.*

P. What's its name?

(96) T. *What is its name? How many know its name? In looking about for a name to give a word whose nature was verbal and whose use was adjectival, the Latin scholars chose a word that means "to partake in," "to share." What name did they choose?*

P. Participle.

(97) T. *Spell it, Jack. All together.*

ALL. P-a-r-t-i-c-i-p-l-e. Participle.

(98) T. *Why participle? Why sharer or partaker in? Why, Jack?*

P. Because it is partly a verb and partly an adjective.

(99) T. *Exactly. It shares in the nature of both verb and adjective and is used as an — ?*

P. An adjective.

(100) T. *And is derived from — ?*

P. A verb.

(101) T. *There you have it. Who is ready to give the definite, full definition of the participle? It comes from* participare, "*to share in.*" *Who are ready to say one, two, three things in the definition of a participle? Maude?*

P. A participle is a verbal adjective and it shows action, but yet it is an adjective and modifies a noun. A participle can be modified by one word or groups of words or an object.

(102) T. *Modified by an object? It may take —*

P. No, it may take an object.

(103) T. *Yes. In our definition shall we group our adverbial modifiers both single words and phrases and call them adverbial modifiers? A participle may take an adverbial modifier or an object or — ? Who is ready to shorten that definition, shorten it and yet make it tell all that Christina gained?*

P. A verbal adjective is derived from a verb and it modifies the subject and can take an adverbial phrase, an object, or any adverbial modifier.

(83) T. *What is the verbal adjective in that sentence?*

P. "Struggling."

(84) T. (Reads, "Uncle Tom," etc.) *I want the asserting verb in that sentence.*

P. "Was."

(85) T. *What is the verbal adjective there?*

P. "Rocking."

(86) T. *Who can use "rocking" and make it a part of the asserting verb so that it is not an adjective at all?*

P. He was rocking to and fro.

(87) T. *But if I say "Uncle Tom, rocking to and fro, heard the music," what is "rocking" there?*

P. It is a verbal adjective.

(88) T. *What modifies "deer" in this sentence?*

P. "Red."

(89) T. *What modifies "deer" in this sentence?*

P. "Pausing."

(90) T. *Mary, you may compare "pausing" and "red." Are they alike in any way? Are they different in any way?*

P. Well, they are alike because they are both adjectives and they both modify "deer," and they are different because one sort of shows action and the other does n't. One is a verbal adjective and one is an adjective.

(91) T. *Plain, ordinary adjective. Good recitation, Mary. Who will take the second sentence? Compare the verbal adjective here with the other adjective here. "The broad stream," etc.*

P. "Broad" there is like "winding" because it modifies "stream," but "winding" shows action and "broad" does n't.

(92) T. *So "winding" is — ?*

P. "Winding" is a verbal adjective and "broad" is an ordinary adjective.

(93) T. *Is an ordinary adjective. Who will take the "lonely, unhappy miser"? Is there a modifier over there of "miser"? Compare the third sentences. Compare those modifiers. Our time is slipping. Well, what adjective modifies "miser" over here? Katherine, do it.*

P. "Lifting." "Lifting" modifies "miser," and "lonely" and "unhappy" modify "miser" in that sentence, but "lonely"

and "unhappy" are adjectives modifying "miser," and "lifting" is a verbal adjective modifying "miser" in that sentence.

(94) T. *Any questions?*

P. How do you diagram them?

(95) T. *We'll take that up later.*

P. What 's its name?

(96) T. *What is its name? How many know its name? In looking about for a name to give a word whose nature was verbal and whose use was adjectival, the Latin scholars chose a word that means "to partake in," "to share." What name did they choose?*

P. Participle.

(97) T. *Spell it, Jack. All together.*

ALL. P-a-r-t-i-c-i-p-l-e. Participle.

(98) T. *Why participle? Why sharer or partaker in? Why, Jack?*

P. Because it is partly a verb and partly an adjective.

(99) T. *Exactly. It shares in the nature of both verb and adjective and is used as an — ?*

P. An adjective.

(100) T. *And is derived from — ?*

P. A verb.

(101) T. *There you have it. Who is ready to give the definite, full definition of the participle? It comes from* participare, "*to share in.*" *Who are ready to say one, two, three things in the definition of a participle? Maude?*

P. A participle is a verbal adjective and it shows action, but yet it is an adjective and modifies a noun. A participle can be modified by one word or groups of words or an object.

(102) T. *Modified by an object? It may take —*

P. No, it may take an object.

(103) T. *Yes. In our definition shall we group our adverbial modifiers both single words and phrases and call them adverbial modifiers? A participle may take an adverbial modifier or an object or — ? Who is ready to shorten that definition, shorten it and yet make it tell all that Christina gained?*

P. A verbal adjective is derived from a verb and it modifies the subject and can take an adverbial phrase, an object, or any adverbial modifier.

(104) T. *Yes. You said it modifies the subject. Not necessarily. It may modify an object.* "*I saw Uncle Tom sitting by the window.*" *You see? I would like a better definition yet. Vera?*

P. A participle is a verbal adjective and is derived from a verb. It shows action. No, it takes an object and adverbial modifiers.

(105) T. *I think that sums it all up. Derived from a verb, used as an adjective. Its verbal nature is shown by the fact that it may take an object and may have adverbial modifiers. Write this definition for me for home work, — a good, full definition. See if you can apply the knowledge you have. Who sees a participle in this sentence? Edward?*

P. "The tiger, crouching in the tall grass, was snarling defiance." "Crouching." It modifies "tiger."

(106) T. *Comes from the verb — ?*

P. Comes from the verb "crouch."

(107) T. *All right. The next one? Jack?*

P. "Looking more closely, I saw a black snake among the weeds." "Looking" is a participle because it is used as an adjective to modify "I."

(108) T. *Do you think you could go through these and apply your knowledge there? I think you could.*

CHAPTER L

ANTICIPATE LESSON PLANNING

Avoid neglect. — It is well to anticipate lesson planning by some preliminary easy practice in writing plans instead of postponing it until the class reaches Chapter XXI, since this will be so near the end of the course that sufficient time may not be available to give the topic the attention it deserves.

An actual plan. — The general-science lesson plan given above, on page E102, was written and carried out by one of the regular teachers in The University of Chicago High School, Mr. Wilbur Beauchamp.

While the lesson was taught for observation, the teacher did not know that his plan was to be examined; hence the written plan represents a real teacher's real preparation and has not been "polished up," as are many published plans. His plans of other lessons not observed follow the same practice of outlining main points of subject matter and exact wording of principal questions. Naturally such a plan is not as full as one which would be required of a practice teacher.

Opportunity. — The lesson on participles reported on pages E103–E114 provides a body of material from which students may secure some easy practice in writing a lesson plan. The following assignment may be made:

Assignment. — Write a plan of the lesson on participles as follows:

I. Outline the essential points in the *subject matter* as directed in 2, *g*, on page 485.

II. Outline the *general procedure* and *main questions* as directed in 3, *a*, and 3, *b*, on page 485.

Imitate the sample outlines given on page 486.

Later assignments. — Opportunities for other easy assignments in lesson planning occur in connection with lessons observed. Students may be required to cast some of these in the form of lesson plans.

Using Bookmarks

Attention is again called to the desirability of placing narrow strips of paper as bookmarks at the places in the text and exercises where the discussion centers. This saves time in turning the pages to the appropriate places. See above, page Evi, for further suggestions.

EXERCISES ON CHAPTER X

FORMING HABITS OF HARMLESS ENJOYMENT

Easy to read but hard to prove and apply. — A large part of this chapter will be easy rapid reading because it consists of easy argument or propaganda and of opinion. The issues raised, however, are of vital importance to society and education and may be made the subject of profound study. Appropriate subject matter to attain the recreational aims described in the chapter is being rapidly organized, but the technique of using it successfully is difficult to master.

Oral reports on periodical articles. — If time permits, a few of the best students who are expecting to teach English may be asked to report the striking and useful suggestions for teaching contained in some of the articles listed at the end of this chapter in the exercise book or other related articles.

Procure *Literary Digest.* — In anticipation of exercise 20 (which see) procure or read copies of the *Literary Digest.*

Important exercises. — Do not fail to use exercises 28 and 29, on the "Marmion" lesson.

Recreational Attitudes

1. *Puritanism versus enjoyment.* — State in which of the following ways you regard the play and other leisure activities of adolescents and adults and why: as *predominantly*

(1) instruments of Satan;
(2) a means of keeping them out of mischief;
(3) a means of keeping them healthy mentally and physically so that they can work harder and more efficiently;
(4) activities justified by the enjoyment which they afford.

Miscellaneous Recreations

2. *Two aims at one blow.* — In the case of most students who have no physical abnormalities can the same physical exercises be used to develop both *health* and *habits of enjoyment*? Give examples and explain.

3. *Athletics for all.* — Could the following practice be carried out in your home high school? Why?

"In general, it is the policy of the School to encourage all pupils to take a reasonable interest in athletics rather than to center attention on the production of a few successful teams. Suitable playgrounds make it possible to encourage inter-class contests and games. All teams are given adequate instruction, inter-class schedules are planned for all the School sports, and suitable recognition is given the winning class teams. The granting of emblems for proficiency in athletics is governed by a set of rules published in the *Students' Handbook*. These emblems are publicly conferred in the School Assembly with appropriate exercises designed to bring out the social and moral aspects of athletic life, and in particular to emphasize the fact that the individual has earned this recognition under strict rules guaranteeing the quality of his work." — From the Announcement of The University of Chicago High School.

4. *Spirit of a club.* — A history teacher who assisted in organizing a history club consisting of high-school students had the club make a rule that no outside preparation for the meetings in the form of study would be permitted. Was this a good rule? Why?

5. *Dancing and parties.* — (*a*) Should high schools give *instruction* in social dancing? Why?

(*b*) Would there be any special difficulties in organizing school parties in *public* high schools similar to those described on page 238 for a *private* high school? Explain and give examples if you know of any.

6. *Æsthetics of music.* — (*a*) Does the quotation from Farnsworth at the bottom of page 239 imply that the "full

æsthetic value" of songs can be best developed by *unison* singing?

(*b*) Compare his use of the phrase "æsthetic value" in the quotation at the bottom of page 241. What does it mean?

Understanding Versus Enjoyment

7. *The joys of mediocrity.* — (*a*) What proverbial saying expresses the point of the example quoted below?

(*b*) Would this proverb apply with equal force to matters of *health*? Why?

(*c*) What is the force of the term, "mediocrity," in the headline of this exercise?

A Chicago dramatic reviewer writes of an acquaintance, "an eager lady who, proficient in the art of music, seeks her happiness through that medium." Yet, so thoroughly trained is she in music, that she *sits through most concerts "in gloomy disapprobation.* Even her own endeavors to reproduce the masters do not always please her, and so *the miseries of her musical existence far exceed her joys.*"

"This lady [says the reviewer] is a frequent patron of the theater. Of the drama she knows enough to find her way about, to look for her favorite authors and actors, and to attend them when they exhibit in this vicinity. Her taste in the matter, however, grades with that of one who in music would be moved by the specious measures of 'You Made Me Love You, and I Did n't Want to Do It.' I saw her the other evening at a performance of 'A Perfect Lady.' Now, 'A Perfect Lady,' despite its apparent effectiveness as an amusement, is not a good play. Irving Berlin or Gus Edwardes, dredging the depths of sound, never dug up a product so hopeless musically as 'A Perfect Lady' is dramatically. Yet my friend sat through its progress entranced. She was as happy as the most tainted wether of the flock. *Her childlike raptures at each obnoxious discord were delightful to behold. Vanished was her recital look of bitter yearning, gone the discomfort and despair.* I learned upon inquiry that she invariably found happiness in the theater. 'Peg o' My Heart' fascinated her, as

did 'Pygmalion,' and 'Potash and Perlmutter,' and 'The Legend of Leonora.' Yet for the art and the pseudo-art of the theater which contribute so much to the joy of her living she has the mild contempt of an expert in another art whose disappointments for her outnumber its fulfillments." — From a dramatic editorial by Hammond in the *Chicago Tribune*

8. *The dangers of "high-browism."* — (*a*) From the following stanzas select the one that best illustrates our discussion of *appreciation* versus *enjoyment.*

(*b*) Do you think this stanza is true or false? Give reasons or examples.

(*c*) What would your favorite professor of literature probably say about these verses?

(*d*) What do you think of the professor who maligns popular fiction in his classes but for his own recreation reads one popular novel a day?

(*e*) How would you define a "high-brow"? One definition is "a person who would rather analyze a thistle than smell a rose."

THE RECOIL

By Bert Leston Taylor

I met a friend of lofty brow —
As lofty as the laws allow.
I said to him, "You 'll know, I'm sure —
What 's doing now in Litrychoor?"
Said he: "I hate the very name;
I'm weary of the blooming game.
I read, whenever I have time,
Something by Phillips Oppenheim."

"Cheer up!" said I. "What 's new in Art? —
You drift around the picture mart.
What do you think of Mr. Blum? —
Some say he 's great, some say he 's bum."

" I'm strong for Blum," my friend replied;
" His pictures are so queer and pied.
I would n't change them if I could;
I'd rather have things queer than good."

I spoke of this, I spoke of that,
But everything was stale and flat.
Said I, " You once adored the chaste,
You used to have such perfect taste."
" Good taste," he wailed, " brings but distress,
'T is an affliction, nothing less;
While those whose taste is punk and vile
Are happy all the blessed while."

" Oh, take a brace, old man!" said I.
" Let me prescribe a nip of rye,
And then we 'll go to see a play;
I 've two for Barrymore to-day."
" No, no," he groaned; " 't would be a bore,
With all respect to Barrymore."
Said I: " Then whither shall we go?"
Said he: " A moving picture show."

9. *Forms of enjoyment* — (*a*) What forms of enjoyment mentioned in the quotation from Thorndike on pages 244–250 do the following verses call forth? Explain.

WHY?

By Bert Leston Taylor

Why, when the sun is gold,
The weather fine,
The air (this phrase is old)
Like Gascon wine; —

Why, when the leaves are red,
And yellow, too,
And when (as has been said)
The skies are blue; —

Why, when all things promote
One's peace and joy, —
A joy that is (to quote)
Without alloy; —

Why, when a man 's well off,
Happy and gay,
Why must he go play golf,
And spoil his day!

(*b*) If you have never played golf do you see any specially *humorous* situation or suggestion in the poem?

(*c*) After answering (*b*) look at the cartoon on page E125. Does this cartoon *explain the humor* in the poem *to you*, or does it appear merely as contrasting two family scenes?

(*d*) After answering (*c*) examine the cartoons on pages E126–E127. What do these cartoons suggest concerning the more subtle humor, the real point intended by Taylor in his poem?

(*e*) What does the class discussion of this exercise suggest concerning *individual differences* in enjoyment of poetry?

(*f*) What attitude should the teacher take toward these differences?

10. *Literary quality of enjoyable verses.* — (*a*) Are the verses given in exercise 9 good from the literary standpoint? (Consider such questions as the importance of the theme and the thoughts expressed, attractiveness of expression, skill in versification.)

(*b*) Evaluate the verses in exercise 8 in the same manner.

(*c*) After (but not before) answering (*a*) and (*b*), read the facts about Mr. Taylor in the bibliography on page E140, below, number 14.

11. *Thorndike's favorite phrase.* — What is Thorndike's favorite phrase to describe the æsthetic enjoyment of literature? (See quotation, pp. 244–250.)

Art and Morality

12. *Real versus pseudo-emotions.* — (*a*) Do the persons who desire all reading of literature to have some moral consequence expect it to arouse *real* emotions or *pseudo*-emotions in terms of Thorndike's discussion on pages 246–250?

(*b*) Which sentences in Thorndike's discussion are most important in helping you to answer (*a*)?

13. *In history.* — What sentence in the Mahaffy quotation on pages 250–251 best expresses its general point from the standpoint of its use in this chapter?

Forming Habits of Enjoying Reading in High School. Teaching Literature in High School

14. *Alternative headings.* — Which of the headings given immediately above is more useful here? Why?

15. *Repetition aspect.* — From the standpoint of repetition in forming habits of enjoying reading, which of the following practices is better? Why?

(1) To read a *few* books *several times.*

(2) To read a *great many* books and magazine articles each *once.*

16. *Zeal aspect.* — From the standpoint of zeal and interest as factors in forming habits, which practice noted in exercise 15 is better? Why?

17. *Getting pupils interested.* — State the *advantages* and disadvantages of each of the following practices to get pupils interested in reading:

(1) *Hand the pupil* a suitable book for his age and let him *examine* it for 15 minutes.

(2) *Read interesting parts* of books *aloud* to children.

(3) Let pupils *browse* in library.

(4) Have *children list books* they like and make these books accessible.

(5) Occasional papers written by pupils about *favorite books*; papers to be read in class (see references 5 and 8, pp. E139–E140).

18. *Making a reading list.* — In making a list of books to be read by students out of class in your home town, which of the devices listed below would you use? Give special reason for each one chosen.

(1) Look up list of college-entrance requirements.

(2) Consult (*a*) a professor of English, (*b*) a high-school teacher of English, (*c*) a teacher of science, (*d*) a teacher of history, (*e*) an editor of a local paper, (*f*) a public librarian, (*g*) parents, (*h*) a book dealer.

(3) Ascertain list of books in home libraries.

(4) List your own leisure reading as an adolescent and as an adult.

(5) Turn pupils loose for a week in a library and require report of what they found and liked.

(6) Ask students to list the books which they have read during the past year.

19. *Recent authors.* — (*a*) What place would you assign to the works of each of the following authors in the reading by high-school pupils? Name one work of each author which you would assign or reject, with reasons.

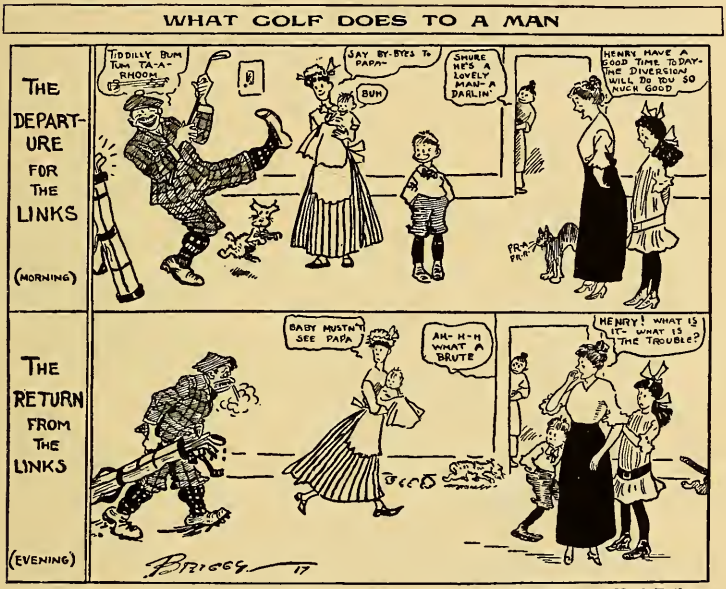
(*b*) What suggestions do you receive in answering (*a*) from the note on the voluntary reading of high-school students given below on pages E138–E139?

Mark Twain	Jack London
O. Henry	Booth Tarkington
Theodore Roosevelt	Conan Doyle
Robert Chambers	Gilbert Parker
Stephen Leacock	J. A. Altsheler
Ring Lardner	Winston Churchill
David Graham Phillips	Louisa Alcott
Joseph Conrad	Rudyard Kipling
J. M. Barrie	John Fox, Jr.
W. T. Grenfell	Gene Stratton Porter
Stewart Edward White	Owen Wister

20. *Current poetry.* — Buy or secure access to several numbers of the *Literary Digest*. Use them as follows:

(*a*) *Select two poems* which you think high-school pupils would enjoy. *Give reasons* for your selection.

(*b*) How would you read these for your own enjoyment — silently or aloud? slowly or rapidly? for narrative? for pictures? for words? more than once?



Courtesy of *New York Tribune*

ILLUSTRATION OF ENJOYMENT OF HUMOR

See exercise **9**, (*c*), p. E122

(*c*) Look up the price of the *Literary Digest* if bought in quantities and devise a scheme for procuring copies for use in class.

(*d*) Describe how you would use the section on current poetry.

(*e*) In what other subjects might the magazine be used to great advantage?

(*f*) What sections other than the one on poetry might you use in the English class? Why?

21. *Periodical reading.* — (*a*) In the facts on voluntary reading of periodicals by high-school pupils, on page E137, below, what accounts for the predominance of the *Youth's Companion*?

(*b*) Does it follow from this predominance that the *Youth's Companion* is the best periodical to emphasize in high school in forming habits of reading periodicals? Explain.

(*c*) For the purpose mentioned in (*b*), what two periodicals in the list on page E137 would you emphasize?

THE START

Why, when a man is happy and gay —

(*d*) State what should be done with each of the following to form habits of enjoying reading in high-school pupils:

Local daily paper
High-grade metropolitan daily or Sunday paper
Saturday Evening Post
Ladies' Home Journal
Hearst's Magazine
Snappy Stories
The Parisienne
The Outlook
National Geographic Magazine
Popular Mechanics
Outing
Good Housekeeping

THE FINISH

Must he go play golf, and spoil his day?

See exercise 9, (*d*), p. E122

22. *Amount of reading.* — (*a*) *How many hours* a week of recreational reading should a high-school student do?

(*b*) *How many words* will he read in this time? Use data given below, on page E193.

(*c*) At this rate *how long* would it take him to read some standard book, such as "Treasure Island," or some other volume that you have at hand for examination?

23. *Reading experience.* — State what *differences* you would make in reading assignments for the following:

(1) Child of a professor or editor; has read all children's books, much adult fiction, travel, etc.

(2) Studious grind of poor family; thinks she has no time for anything except textbooks and housework.

(3) Nonstudious, nonreading boy; wants to be outdoors all the time or, if indoors, dancing or playing cards and pool.

24. *Fiction: individual differences in methods of reading.* — State what allowance you would make for the following differences in methods of reading fiction for enjoyment.

(1) Some pupils and educated adults skip descriptions.

(2) Some do not enjoy reading if they know the story in advance.

(3) Some read the beginning, then the ending, then the rest.

(4) Some read choice parts time and again.

25. *Loveliness and logic.* — The poems below were included by the *Boston Transcript* among the thirty best poems published in 1916–1917. Read each slowly, out loud, at least once. Then answer the questions printed on page E130.

BARTER

By Sara Teasdale

Life has loveliness to sell,
All beautiful and splendid things,
Blue waves whitened on a cliff,
Soaring fire that sways and sings,
And children's faces looking up
Holding wonder like a cup.

Life has loveliness to sell,
Music like a curve of gold,
Scent of pine-trees in the rain,
Eyes that love you, arms that hold,
And for your spirit's still delight,
Holy thoughts that star the night.

Spend all you have for loveliness,
Buy it and never count the cost;
For one white singing hour of peace
Count many a year of strife well lost,
And for a breath of ecstasy
Give all you have been, or could be.

Love Songs (The Macmillan Company)

TO A LOGICIAN

By Dana Burnet

Cold man, in whom no animating ray
Warms the chill substance of the sculptor's clay;
Grim Reasoner, with problems in your eyes,
Professor, Sage — however do they call you?
Far-seeing Blindman, fame shall yet befall you;
Carve you in stone — that winter of the wise! —
And set you up in some pale portico
To frown on heaven above, on earth below.

I shall make songs and give them to the breeze,
And die amid a thousand ecstasies!
I shall be dust, and feel the joyous sting
Of that sweet arrow from the bow of Time
Which men call Spring.
And out of my dead mouth a rose shall come like rime!
But you, in your eternal state of snows,
Shall thrill no more to life's resurgent flood,
Nor cast death's laughter into April's rose!
You shall be marble, who were never blood.

Harper's Magazine

(*a*) What sentences on page 262 do the poems illustrate?

(*b*) What antithesis do they suggest between this chapter and the preceding one?

(*c*) What new title for the first poem would you suggest?

(*d*) Are the sentiments of the first one suited only to sentimental women and long-haired artists? Explain.

26. *Technique with classics.* — In teaching literary classics which of the following would you emphasize? Why?

(1) Life of the author and history of his literary relationships.
(2) Technique of workmanship.
(3) The spontaneous responses of the students.
(4) The purpose of the author in writing the selection.
(5) The phases of the selection which you enjoy most yourself.
(6) Punctuation, spelling, parsing, analysis.
(7) Explanation of allusions and unusual words.
(8) If a play:
    (*a*) The fundamental story (or plot).
    (*b*) Stage directions.
    (*c*) Expressive reading of the whole play by the teacher.
    (*d*) Elocutionary reading of parts by pupils.
    (*e*) Historical setting.

27. *History of literature.* — To which of the following is the history of literature most closely related: (1) forming habits of harmless enjoyment or (2) the study of history as descriptive sociology? Explain. (Cf. p. E139, § 6.)

28. *Write a plan of the lesson on "Marmion."* — Write a plan of the lesson on "Marmion" on pages E131–E136. Include (1) the five main points in the subject matter and (2) the principal questions asked. *Hand it in.* See directions for lesson plans on pages 484–486.

29. *Evaluate the "Marmion" lesson.* — (*a*) Does the "Marmion" lesson avoid the criticisms implied in the satire on pages 260–262 of the text? Explain.

(*b*) Point out two commendable features in the lesson.

(*c*) Which items in exercise 26 does it emphasize?

PART OF A LESSON ON SCOTT'S "MARMION"[1]

This lesson was actually conducted as set forth in the dialogue, which was transcribed by a stenographer who was present for that purpose.

In order to get the full effect of the lesson, including many crudities in the pupils' answers, *read it out loud.*

The first part of the lesson (not quoted here) was devoted to the telling of the story by the pupils and to its historical setting. In the latter connection the discussion turned to "knighthood" and proceeded as follows:

(1) TEACHER. *What were the ideals of the knights of that period?*

PUPIL. They must be brave, fight well, ride well, and be faithful.

(2) T. *Anything else?*

P. They must always be loyal to their king, and help anyone in trouble.

(3) T. *These were the chief points. Have you read any stories of any other knights besides "Marmion"?*

1ST P. "Sir Launfal," "Ivanhoe."

2D P. All the stories of the Round Table.

3D P. "Parsifal."

(4) T. *Does that belong to this period?*

P. A little earlier.

(5) T. *Still, you have read about knights and their ideals; any other stories?*

P. "Sir Nigel."

(6) T. *Who is the most interesting knight you have read about?*

P. Ivanhoe.

(7) T. *You liked that best? How many do?*

(Hands.)

(8) T. *A good story of a very interesting knight. Do you think Marmion was a true knight?*

(Hands.)

P. I think he was as far as fighting and braveness were concerned, but when he put Clare in prison, — I don't think that showed a good spirit.

[1] From Romiett Stevens's "The Question in Instruction," pp. 90–95.

(9) T. *Why did he put Clare in prison?*

P. I mean Constance — he wanted to marry Clare, and he put Constance in prison to get her out of the way.

(10) T. *Did he put her in there expecting she would be killed?*

P. No.

(11) T. *Your opinion, Arthur?*

ARTHUR. He was worse when he forged the letters.

(12) T. *You think that was the greatest wrong that he did? How many agree?*

PUPILS. Yes.

(13) T. *He simply felt that Constance would be taken care of in that monastery. Do you consider him the hero of the poem?*

P. I do, yes; because it is mostly about him.

(14) T. *Well, you say he is a man guilty of treason, and he certainly did n't protect the weak, — not a hero in that respect.*

DOROTHY. I think the hero in a book ought to be a very good man, and I think the man Scott has in mind to be the hero is Ralph De Wilton.

(15) T. *Your opinion, Bruce?*

BRUCE. I think Ralph De Wilton is the hero in a way, — I think Marmion is a sort of hero, — toward the end Marmion is, and Ralph De Wilton in the beginning.

(16) T. *Which one triumphs in the end?*

P. I think Marmion — I mean Ralph De Wilton.

(17) T. *Your opinion, Carl?*

CARL. I think Marmion; he was n't a hero through the book, but I think if he could have revived after he had been hurt, he would have been a good man; he was sorry when he heard about Constance.

(18) T. *Ed?*

ED. I think he is, it is a sort of an English knight; I don't judge a man by whether he is good or not, — the chief man in the book.

P. It tells more about Marmion than Ralph De Wilton, but I don't think he is the hero.

(19) T. *You consider Ralph De Wilton the hero?*

P. Yes.

(20) T. *You think it was the times rather than the man himself?*

PUPILS. Yes.

(21) T. *That is perfectly true; I must confess I think the story is a little weak in that point,— it is called "Marmion," but the one who triumphs really is Ralph De Wilton.*

P. The most part of it is about Marmion.

(22) T. *Yes.*

P. So I think you could consider the book well named.

(23) T. *That is perfectly true, but there is that other criticism that Marmion himself is not the one who triumphs; it is the overthrow, really, of Marmion, who represents the evil, and Ralph De Wilton, the good.*[1] *Someone spoke of the worst thing he did, which was treason; does anyone think that in that time forgery was rather out of harmony?*

P. I don't think he would have done it in anything else; I think he thought — that he knew — Clare liked Ralph better than she did him, and she wanted to get him out of the way.

(24) T. *The author was very consistent in putting his whole story in the Middle Ages, and that one point of forgery was rather a commercial point. What do you consider the real weakness in Marmion's character?*

1ST P. He wanted to be so great himself; he wanted everything; and Constance did n't have any lands and Clare did, so he wanted to marry her, and he forged the letters.

2D P. His weakness was in how he loved people.

(25) T. *What do you mean exactly?*

P. At first he loved Constance, and Clare came along, and he liked her because she had lands.

(26) T. *He really always loved Constance, did n't he?*

P. His pride and self-conceit,[2] — and in the second place he thinks he is greater than Ralph De Wilton, so Clare should like him better; he says: "I am this wonderful knight —."

(27) T. *His conceit, his ambition, is really the thing that proves his downfall. I asked you to select any stanzas that you considered*

[1] What could the teacher have meant by this statement?

[2] Probably reverting to the main question of weaknesses in No. 24, above.

particularly good on account of the color. Did you find one? The canto and the stanza? Dorothy?

DOROTHY. Canto I, stanza I.

(28) T. *Read it out loud.*

DOROTHY. "Along the bridge Lord Marmion rode,
Proudly his red-roan charger trode,"

(Reads 20 lines.)

(29) T. *That is a very good description of Marmion there, but has it much color?*

DOROTHY. I think it has.

(30) T. *What part?*

DOROTHY. His appearance, his face —

(31) T. *Was bright?*

DOROTHY. No it was dark.

(32) T. *Is that color? I think that is a capital description, but I don't think there is much color in it.*

DOROTHY. I didn't find any stanza I thought was any better.

(33) T. *Margaret?*

MARGARET. I took Canto IV and stanza XXVIII.

(34) T. *Just read that part of it that has a good deal of color in it.*

MARGARET. It is all through the stanza:

"Nor mark'd they less, where in the air
A thousand streamers flaunted fair;
Various in shape, device and hue,
Green, sanguine, purple, red and blue."

(Reads about 20 lines.)

(35) T. *A good deal of motion in that.*

MARGARET. And the color of all the different flags.

(36) T. *There was a capital description right after the one you read, Dorothy, — the trappings of the horses —*

P. Yes, I think it was light blue.

(37) T. *Any stanza you found with a great deal of action; where would you look to find a stanza with a great deal of action?*

P. At the end of the book.

(38) T. *What was that?*

P. Flodden Field.

(39) T. *Anyone find a good stanza there? Margaret?*

MARGARET. There was a good deal of action where Marmion —

(40) T. *There was a good deal —*

P. Where he dashes over the drawbridge.

(41) T. *Yes; any in the battle? Carlton? Turn to the class and read it aloud.*

CARLTON. "At length the freshening western blast
Aside the shroud of battle cast;"

(Reads 16 lines.)

(42) T. *That is very good; and the next stanza, in the fight itself; how many noticed that?*

(Hands.)

(43) T. *What passages in "Marmion" are quoted frequently, Anna?*

ANNA. I think where Marmion says good-by to Douglas, and where Douglas is angry because Marmion tells him that he has lied.

(44) T. *Why do you suppose that is so frequently selected to be put into readers?*

P. I think it has so much feeling and so much swing —

(45) T. *It has feeling and swing —*

P. Yes.

(46) T. *Any other reason? How many can just see those two men, Douglas and Marmion, pitted against each other? Any other?*

P. "O woman! in our hours of ease
Uncertain, coy, and hard to please,
And variable as the shade
By the light quivering aspen made;
When pain and anguish wring the brow,
A ministering angel thou!"

(47) T. *Do you believe that?*

P. No.

(48) T. *I don't either; it may have been true at that time.*

P. There is another, where Constance says:

"And come he slow, or come he fast,
It is but Death that comes at last."

(49) T. *Another?*

MARGARET. "And dar'st thou then
To beard the lion in his den,
The Douglas in his hall?"

(50) T. *How many have read "The Lady of the Lake"?*
(Hands.)

(51) T. *Which do you like better, "Marmion" or "The Lady of the Lake"?*

ED. "The Lady of the Lake," I read about two years ago in Miss A.'s class, and I can remember it, but this I could n't remember in a couple of weeks.

(52) T. *Dorothy?*

DOROTHY. I think I would know right away that I was reading Scott; the two books; he repeats himself the way Macaulay does; their heroes are something the same.

(53) T. *It is Scott all the way through. What do you think are the strong points in "Marmion"?*

P. I don't know.

(54) T. *How many feel that the descriptions are capital?*
(Hands.)

(55) T. *I want everyone by Monday to have purchased a copy of "Silas Marner," etc., etc. For to-morrow prepare the grammar on page 94, etc., etc.*

VOLUNTARY READING BY 800 HIGH-SCHOOL PUPILS

The following information was secured in the Decatur, Illinois, High School in response to a questionnaire submitted by the superintendent, J. O. Engleman, and is published in his report for 1914–1915. While there are certain defects in this method of securing information, the outcome is useful for suggestions in regard to reading.

MAGAZINE READING

Replying to the question, "What magazines do you regularly read?" 101 answer "None." The other 700 students ought to find magazine reading suited to their varied tastes, for they read a

total of 178 different publications! It may surprise many readers to know that there is such a formidable list to be found.

Below may be seen a *list of 25 of the most popular magazines read* by our students, judged by the number of regular readers of each:

The Youth's Companion	read by	182 students
The Ladies' Home Journal	" "	156 students
Saturday Evening Post	" "	93 students
Popular Mechanics	" "	78 students
Woman's Home Companion	" "	72 students
Pictorial Review	" "	72 students
Collier's	" "	71 students
Cosmopolitan	" "	65 students
American Boy	" "	59 students
The Outlook	" "	59 students
Life	" "	47 students
McCall's	" "	46 students
American Magazine	" "	44 students
Ladies' World	" "	44 students
Literary Digest	" "	43 students
Delineator	" "	38 students
Woman's World	" "	36 students
Scientific American	" "	31 students
Everybody's	" "	30 students
Puck	" "	29 students
Harper's	" "	28 students
Good Housekeeping	" "	28 students
McClure's	" "	28 students
Current Opinion	" "	27 students
World's Work	" "	26 students

At the other end of the scale are 65 magazines with but one reader each, and 21 others with only two readers each. This list of 86 includes many of the magazines most widely read by adults, and especially by scholarly adults.

There are prominent educators who believe that the high school can well afford to use magazines freely as a basis for the work in English, even if it means giving less attention to the classics so long prescribed and taught. But whether we would adopt that course or not, it seems that a worth-while work can be done by

placing in the hands of the English teachers a list of the 101 students who have not yet learned to read magazines, and by recommending that they introduce them to the various types of reading matter found in the best of the magazines accessible. For a certain number of lessons to be given acquainting students with the character of different magazines — some being scientific, some religious, some political or sociological, some literary in the best sense, some devoted to art, some to current events, some valuable for their book reviews, some for matters of fashion, etc. — is to enable students to leave the high school, finally, with a reading habit and a discriminating taste that ought to persist.

BOOKS VOLUNTARILY READ

The students who have not read a single book (not required by the teacher) during the semester number 269. One hundred and fourteen failed to answer the question calling for the number of books read. It is fair to assume that few, if any, of these had read any books. Thus it would appear that *383 students, or almost half of the number replying, have done no reading of books save that required by their teachers.*

But the other 400 students had read a list of books amazing in its variety. Four hundred and eighteen different titles appear in the list. Of this number the book most widely read during the semester is "Eyes of the World," read by 17 students. Others most popular are:

Girl of the Limberlost	with 15 readers
Polyanna	" 15 readers
Shepherd of the Hills	" 14 readers
Freckles	" 12 readers
The Virginian	" 11 readers
Inside the Cup	" 10 readers
St. Elmo	" 9 readers
Crisis	" 8 readers
Lavender and Old Lace	" 8 readers
Winning of Barbara Worth	" 8 readers
Little Women	" 7 readers

Ben Hur, Bible, Graustark, Rosary, Their Yesterdays, each with 6. Alger books, Call of the Wild, Laddie, Rebecca of Sunnybrook Farm, and Tom Sawyer, each with 5.

Three hundred and thirty-two, or nearly 80 per cent of the books in the list, had but one reader each. Inasmuch as this is purely voluntary reading, it is of interest to note in what divers and diverse directions the student's fancy takes him when left to gravitate as it pleases.

Perhaps the more significant thing is the list of titles not to be found in the list. Dickens, with his long array of novels, has but 4 voluntary readers; Hawthorne, 2; Scott, 2; Kipling, 1; Bulwer Lytton, 1; Cooper, 2; Victor Hugo, 2; Barrie, 1; Milton, 1; Tennyson, 1; Kingsley, 1; and Shakespeare (mirabile dictu!), 1; Stevenson, none; George Eliot, none.

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Entertainments: social centers. — 13. Perry, Clarence A. *Community-Center Activities.* (Russell Sage Foundation, New York City, 1916.) A handbook telling what to do and how to do it in entertainments, contests, social gatherings, clubs, voluntary classes, etc. By the leader in community-center work in America.

Just for fun. — 14. Taylor, Bert Leston (B. L. T.). A Line-o'-Verse or Two. (The Reilly & Britton Co., Chicago, 1911.) Mr. Taylor ranked with Eugene Field among the most successful American newspaper humorists and "column conductors." His daily column in the *Chicago Tribune*, entitled "A Line-o'-Type or Two," was read eagerly by persons of all ranks throughout the Middle West and even in more distant places. It contained original poems in English (and sometimes in Latin) by the editor, serious and humorous comments on current events, and witticisms by contributors who were lucky enough to "make the line." Mr. Taylor played golf for recreation and took long canoe trips in the northern woods during his vacations. His writings reflected his recreational interests and his contact with the great problems of life through service with *one* of the "world's greatest newspapers."

CHAPTER M

SPECIALIZED INDIVIDUAL OBSERVATIONS

Purpose. *Provide for varied interests.* — If time and opportunity permit, provide for individual differences in the specialized interests of members of the class by arranging for individual observations as described below.

Assignment. *Make five observations.* — Choose some phase of teaching discussed in Parker's text which is especially important in your subject. Make five observations of lessons in which this phase of teaching is prominent.

Suggested phases for observation. — The following phases with parallel chapters or pages in the text are suggested:

(1) Foreign languages. Pronunciation, pages 114–119; vocabulary and grammatical usage, Chapter VII.

(2) Social sciences. The use of problem-solving methods in history, civics, and economics, pages 169–205.

(3) Mathematics. Making its abstract ideas more real, pages 205–226.

(4) Literature. The technique of securing responses of enjoyment, pages 242–267.

(5) Expression. Chapter XI.

(6) Laboratory methods. Chapter XIX.

Form of report. — (*a*) Write a concise report of your observations to cover not more than five theme pages.

(*b*) Preface the report with a *list of the observations*, giving name of subject, school, grade, and teacher.

(*c*) Write a unified discussion of the phase of teaching observed and its technique as illustrated in your observations. Give evidence and examples from the latter but do not describe them one after the other or in detail.

EXERCISES ON CHAPTER XI

TRAINING IN EXPRESSION

What use can I make of this chapter? — This chapter may be of practical value not only to teachers of English composition and drawing but also to teachers in other subjects who are interested in "coöperative" training in expression. It may also prove helpful to those readers who are trying to master the art of expression for themselves. Therefore the following assignment is suggested.

Assignment. — Write a paper of not more than two theme pages in answer to the following question, "What use can I make of this chapter not only in teaching but also in my own efforts at expression now or later?" *Hand the paper in when the discussion reaches exercise 22.*

Read pages 269–290. — Read pages 269–290 rapidly at first reading. Then prepare through exercise 7 for the first discussion.

Importance of Expression

1. *Compared with other subjects.* — (*a*) Give *objective evidence* in terms of the amount of time devoted to various subjects in the high school to indicate the relative importance of training in the following: foreign languages, mathematics, expression in English.

(*b*) What is your *opinion* concerning the relative importance of these three subjects in the lives of most high-school students? How does your rating compare with the rating secured from data given in answer to (*a*)?

2. *Practical versus imaginative expression.* — (*a*) Which type of expression does Parker discuss, *practical* or *imaginative*? Give evidence from his chapter.

(*b*) Can you suggest better terms than "practical" and "imaginative" to express the antithesis; for example, would "practical" and "literary" be better? Why?

(*c*) Is Parker justified in neglecting in his discussion (completely, or almost completely?) one of the above types of writing? Explain.

Vital Content

3. *Sources of voluntary topics.* — (*a*) In the list of voluntary topics given on pages 273–274 label each one as follows:

G if primarily a topic of serious *general public* interest.
V if primarily *vocational* for the individual pupil concerned.
S if primarily from *student* activities or *leisure* activities.

Count up your labels for each group and state the results.

(*b*) What would you conclude from your results concerning the *types of topics* upon which students would do the most effective writing? Why?

4. *Topics for arguments.* — (*a*) Which of the following topics are *best for* debates in senior high-school classes in argumentation? Why?

(*b*) Which are *poorest*? Why?

(1) Honesty is the best policy.
(2) Adoption of an honor system in examinations.
(3) Abolition of capital punishment for murder.
(4) Relative merits of certain kinds of automobiles.
(5) Desirability of intervention by the United States in Mexico.
(6) A short school day with home study versus a longer school day with no home study.
(7) Prohibition of the manufacture and sale of alcoholic liquor as a national law.

Broad Point of View

5. *Explain narrowness.* — The following remarks were made by experienced teachers of English composition. Give the probable *reasons* in terms of the teacher's point of view, training, or special interests, for each remark.

(1) One teacher said, "The trouble with vocational writing is that it lacks vitality."

(2) Another said, "I would never have a student write a *brief*. It spoils his writing."

6. *In various subjects.* — (*a*) Does the teacher of expression need a broader point of view than a teacher of history? Why?

(*b*) Does he need a broader point of view than a teacher of mathematics? Why?

7. *Technical themes.* — In case a pupil desires to choose a technical topic from a subject concerning which the teacher is uninformed, which of the following practices would you *prefer*? Give reasons from Parker's chapter and your own experiences.

(1) *Refuse* to approve the topic.

(2) Submit the theme *to the teacher of the related subject* for evaluation of the content.

(3) *Permit* the student to present only such simple technical matters as could be understood by an ordinary audience.

(4) *Require* the student to undertake the presentation of his technical material in such a manner as to interest and enlighten an ordinary audience.

8. *Content from movies.* — (*a*) *What forms* of *desirable* content for expression might pupils secure from moving pictures?

(*b*) Would you *encourage* or *discourage* the use by students of such material? Give reasons of your *own* as well as from Parker's chapter.

9. *Simplicity and sincerity.* — (*a*) From the standpoint of encouraging simplicity and sincerity, and avoiding the handing in of copied themes, which of the following exhibits for imitation would be best? Why?

(1) Examples from Stevenson, Washington Irving, Hawthorne, Macaulay, etc.

(2) A few *very superior* student themes.

(3) Numerous short student compositions in their original form, varying from *fairly good* to *excellent.*

(*b*) How would you provide the samples for imitation?

10. *Models for imitation.* — (*a*) Would the desirability of a *correct model* for imitation rule against method (3) in exercise 9?

(*b*) Which does a pupil need most as a model for good writing: (1) samples of the *process* of good writing or (2) finished *products* of good writing? (Compare the discussion of *process* and *product* of reflective thinking described on pages 180–182.)

(*c*) How could samples of the *process* be provided?

The Audience

11. *Creating audience situations.* (*a*) *Specialization.* — Discuss the value from the audience standpoint of specialization upon a topic by a student, with several short reports distributed at intervals.

(*b*) *Projects.* — Show how such a project as that described at the bottom of page 276 is influential in creating an audience situation.

(*c*) *Advertising.* — Discuss the value (from the audience standpoint) of having high-school pupils issue a number of the high-school paper as a "booster" advertising number for the local community. On page E147 is a sample page from a publication prepared by the pupils of Savanna, Ill.

(*d*) *Literary club.* — Would you use the device described in the following paragraph from Miller's "Practical English

Composition"? It follows a discussion of Macaulay's experience in writing his "Lays of Ancient Rome."

"When Macaulay wrote, when anybody writes, he writes for an audience. In the approval of an audience lie the reason and reward of composition. No man except a blockhead or an angel ever wrote except for an audience. In beginning a course in composition, the first thing to do is, therefore, to provide an audience. We shall accomplish this by organizing ourselves as a literary club."

Clear Ideas by the Student

12. *Composition as training in thinking.*— (*a*) Considering composition as providing training in thinking, *show how* most of the *processes in effective thinking*, summarized on pages 199–200, *enter* into effective practical composition.

(*b*) If possible, *rephrase* some of these points into the parallel *rhetorical directions* used in description, exposition, and argumentation.

13. *Scientific method in debating.*— Recall the five characteristics of scientific method listed above on page E12.

(*a*) Show how numbers 2, 3, and 5 *would enter* into a debate of the question, Should capital punishment be abolished?

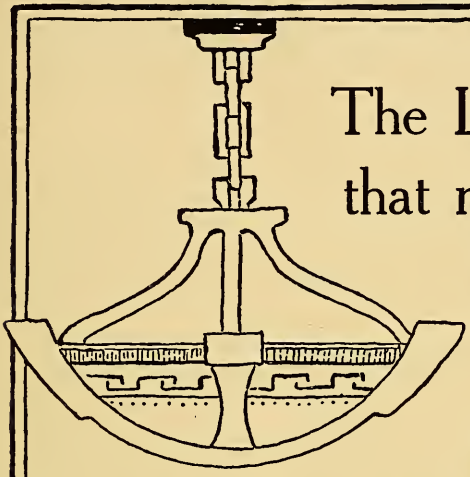
(*b*) Why would number 1 *not* enter?

(*c*) To *what extent* would number 4 enter?

(*d*) If in the debate pupils contented themselves with presenting such arguments as, "I would rather be hung than spend my life in jail," or "It is more cruel to hang a man than to put him in jail for life," or "The Bible states 'Thou shalt not kill,'" would you consider that they were securing *good* or *poor* training in thinking? Why?

(*e*) If the situation described in (*d*) occurred in the debate, what assignment would you make for the next meeting of the class?

(*f*) What phase of Parker's chapter other than clear thinking does this exercise illustrate?



The Light that never fails

THE light that gave a dull dim glow and was in demand in ye olden times, was the tallow-dip. Years later the candle proved its superiority for light producing. Then the advent of the kerosene lamp into the realm of lighting seemed the culmination of illuminating attempts. ¶ But, now today on the market we have the light of lights, as bright a light as any light will be. ¶ It is the light we sell. The light that never fails.

Peoples Gas and Electric Co.

Drawing by Gertrude Bahwell *Copy by Isabelle Ulmer*

SAMPLE PAGE FROM STUDENT PAPER

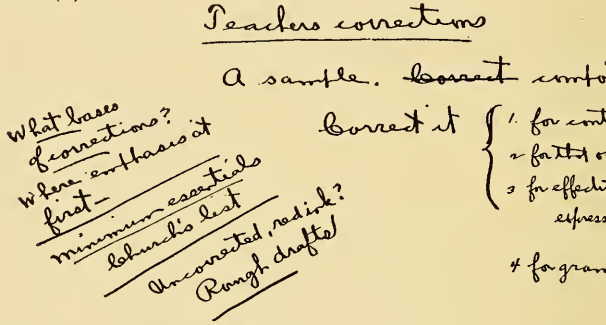
See exercise **11**, (*c*), p. E145

14. *Procedure in practical and imaginative writing.*— (*a*) Describe the part played by *spontaneity*, *outlining* or *briefing*, "*rough drafts*," and *revision* or "*tinkering*" in each of the following:

(1) *practical* descriptive, narrative, expository, and argumentative writing;

(2) *imaginative* and poetical writing. (If possible cite examples, such as the writing of Gray's "Elegy" and Bryant's "Thanatopsis.")

(*b*) What differences and similarities appear between (1) and (2)?



SAMPLE OF A FIRST ROUGH-DRAFT OUTLINE

15. *Rough drafts.*— In actual authorship preliminary outlines and rough drafts are often made in very sketchy, rough form; for example, in writing these exercises Parker's first plan for possible exercises on the correction of themes is shown on this page. In view of this fact, what account should a teacher take of the process of "rough drafting" in student's composition; for example,

(*a*) Should he encourage students to sketch their thoughts in hasty abbreviated form on paper with insertions, replacements, etc. roughly indicated? Why?

(*b*) Should he encourage pupils to show these to him for examination or should he require them to be nicely rewritten before he takes any account of them? Why?

(*c*) Since many students with good capacity for authorship detest formal briefing, would you accept from them such rough outlines as are described in (*a*) in lieu of carefully written briefs? Why?

Getting Point of View of the Audience

16. *Self-consciousness.*— In oral expression does it *increase* or *decrease* a student's self-consciousness to suggest to him that he keep in mind the point of view of his audience? Explain.

17. *Suitable vocabulary: slang.*— (*a*) In a civics class which is discussing socialism would you permit a pupil to say, "The public would n't stand for it" or "They could n't get by with it"? Why?

(*b*) Would you take Professor Baker to task for using the expression "makes good" in the quotation at the top of page 278 of the text?

(*c*) How does the expression "makes good" differ from the expression "not stand for" from the standpoint of good use?

(*d*) If you permitted the use of some slang by students, where would you draw the line in terms of an individual student's language habits; that is, when would you require him to substitute good English for slang?

Making Corrections

18. *In oral expression: correction during or after and how?*— In a short formal talk a pupil says, "They had n't ought to have burned Joan of Arc." Which of the following *five* forms of correction is best? Why?

(1) The teacher *stops the pupil* and
  (*a*) has him correct himself, or
  (*b*) says, "George, say, 'They should not have burned Joan of Arc,'" or

(2) *After the pupil has finished* his talk the teacher says,
(*a*) "George, what should you say instead of 'had n't ought to'?" or
(*b*) "Class, what mistakes did George make?" or
(*c*) "George, say, 'They should not have burned Joan of Arc.'"

19. *Uncorrected themes.*— Review the suggestion for uncorrected themes in paragraph 3 on page 37 of the text. Do you think such practice would be at all effective in improving the writing of students? (Compare unsupervised and uncorrected practice in piano playing, vocal training, typewriting, running, swimming, baseball, tennis, etc. and reference 1 on page E197, below, entitled "English for the Hopeless Pupils.")

20. *Assigning themes.*— (*a*) Which of the following assignments is better? Why?

(1) Hand in a story of adventure day after to-morrow; about 500 words.

(2) A week from to-day hand in a short story. Make it a story of adventure if you can. Be on the lookout for incidents which you might use. Where might you secure suggestions of incidents? Don't make it too long; about two to four theme pages.

(*b*) If the second method were adopted, what remarks might the teacher make in reference to the assignment at intervening class meetings?

21. *Contribution recitations.*— (*a*) What chance of success would the scheme of contribution recitations (described on page 288) have in the hands of an inexperienced, relatively untrained teacher?

(*b*) In the hands of an experienced teacher? (Compare the discussions at the bottom of page 129 of the text and in exercise 6, p. E65, above.)

22. *What use can I make of this chapter?*— Read your paper on the assignment made in the exercise book at the beginning of this chapter.

23. *Miller's directions to pupils.*— Show how the following quotation from Miller's "Practical English Composition" parallels and supplements Parker's discussion by *labeling each point* in it as follows:

with *P* if it parallels Parker's points;
with *S* if it supplements by adding new points.

"Composition consists usually of three processes:

"I. Gathering material, or getting something to say.

"II. Putting this material together, which involves: (1) arranging it; (2) oral discussion or oral composition; (3) writing; (4) revision.

"III. Publication, which includes the presentation of the finished product to an audience and the reaction of that audience.

"In other words, the student of composition must not make the mistake of thinking that composition is merely writing. There are seven steps in composition: (1) gathering material; (2) arranging material; (3) oral composition; (4) writing; (5) revision; (6) publication; (7) the reaction (that is, approval or disapproval). Writing is therefore only one of the seven processes that compose composition. In relation to the composition as a whole it stands in importance about as a postage stamp stands in size to the envelope which it carries."

24. *Lewis and Hosic's preface.*— Show how the following quotation from the preface of Lewis and Hosic's "Practical English for High Schools" *parallels* and *supplements* Parker's discussion in Chapter XI and *other chapters* by *labeling each point* in it as follows:

with *P*, *p*, if it parallels Parker's points,
indicating after *p* the parallel page in Parker's text;
with *S* if it supplements by adding new points.

"The authors have observed the following principles:

"1. That a textbook should be primarily a laboratory guide and not a treatise or an encyclopedia.

"2. That the most important thing for a pupil to learn is not theory but a method of work.

"3. That practice in expression has little value unless it grows out of a real situation and involves genuine personal experience and creative imagination.

"4. That both good speech and good writing are matters of habit and, therefore, are to be attained by the repetition of activities which enlist the interest of the pupil and call out his energies.

"5. That much of the material in the books now in use in the schools is overmature, ambitious, and unrelated to the thoughts and lives of young people.

"6. That, on the other hand, greater stress should be laid upon certain subject matter hitherto almost completely neglected; for example, social letters, business letters, newspapers, and magazines.

"7. That the best teaching requires a real social situation in the classroom, and that earnest coöperative effort, concentrating the attention of pupils and teachers on a common problem, is more likely to produce correct habits than memory drills or the exaction of perfunctory tasks."

25. *Lyman's editorial.*— Underline in the following editorial four important ideas *not contained* in Parker's chapter, and *label each* "*exercise 25*."

"WHAT LIES BACK OF CO-OPERATION IN ENGLISH

"By R. L. Lyman

"*Language arts versus thought and feeling.*— L. H. Jones, superintendent of the Indianapolis schools, in the International Congress of Education held in Chicago in 1893, said:

"Language, writing, and drawing considered in themselves are purely arts; their end is skill, . . . language . . . has no ennobling ideas in itself. Only when these branches are used in the expression of ideas whose origin is in some other field of thought do they become charged in themselves with thought, or feeling, or motive so as to become individual factors in spiritual development."

"*Subordination of grammar.*— Here we have the essence of the movement which, starting twenty-five years ago, resulted in the subordination of formal English grammar to the place of incidental study which it occupies to-day.

"*Teach mother-tongue in all subjects.* — Moreover, the statement of Superintendent Jones may be said to be the basic doctrine of the movement, in its incipiency in 1915, which takes the ground that formal classes in English, especially in English composition, are occupying altogether too large a place in the program of the elementary, and especially in the program of secondary, schools. This new idea urges less time for formal English classes, and insists upon more and better instruction in the mother-tongue in departments other than English. The leaders desire that English composition be taught in all classes, in all school activities at all times, by every teacher, both by his example and by careful supervision of his pupils' oral and written work. Through these means, all teachers are to help establish good language habits. The movement for correlation with 'other subjects,' as yet in its early stages, is most significant.

"*Language lessons neglect subject-matter of thought.* — To put this in another light, language lessons were introduced about 1860 to 1870, as a substitute for the unspeakable grind of grammar. To-day these language lessons have themselves to face somewhat the same criticisms that formal grammar faced twenty-five years earlier. Just as the study of grammar, with elaborate formulas of parsing, analysis, diagramming and the like, became an end in itself and lost whatever educational import it may ever have had, so to-day language lessons have become stereotyped, ends in themselves, whose educational value is extremely doubtful. Most English compositions written for prescribed classes in composition, of whatever grade, from elementary school to university, are exercises performed mechanically to meet requirement, generally disliked by the pupils. They are *utterly devoid of the viewpoint of authorship.* The pupil's attention is directed not upon the subject-matter of his thought, but upon the formal elements of his composition, structure, style, and diction. This is not the way to teach pupils to write and speak.

"*Distinguish drill and authorship.* — *Formal* English composition courses are drill exercises in the mechanical elements of writing or speaking. As such they must always hold a place in the curriculum. Drill is absolutely necessary to secure mechanical and elementary rhetorical accuracy. The place for such language

lessons should be confined to classes in the English department frankly given over to formal drill; but *the great bulk of English composition ought to be taught in connection with other subjects.* The geography lesson, the theme in history, the topical recitation in civil government — these, and numberless similar occasions furnish the best practice ground for establishing language habits. As Mr. Jones said in 1893, 'In some other field of thought, language lessons become charged with feeling or motive.' In these other fields *we have the viewpoint of authorship — an overwhelming interest in the subject-matter*, an earnest desire to be 'the servant of an idea'; this the pupil of eight or eighteen or twenty-eight must have. He must write or speak with his mind centered upon the message he wishes to proclaim.

"*Drill on method constrains; authorship frees and vitalizes.* — Language lessons are not a content study; they are drill exercises in the mechanics of grammatical and rhetorical accuracy; they are not fertile fields for practice in writing or speaking. No drill exercise in which the attention of the performer is centered primarily upon method is ever free from constraint. Vital practice in the use of the mother-tongue approximates its greatest value when the student, having roughly thought out his scheme of procedure, breaks free from conscious attention to the mechanical details of his composition, and, wrapped in the relation to each other of the ideas he wishes to present, advances freely and fluently toward his goal. Then, after the first rough draft of his composition is completed, he is in a position to apply himself with intense interest to the question of reorganization, to the matter of sentence structure, to the proper selection of words. All these duties are motivated by the desire to give to his message the most effective vehicle of expression.

"*Authorship attitude essential in life and in school.* — This attitude of authorship is just as essential for effective school exercises in composition as it is for the magazine writer, the editor, the lawyer. Language habits, both oral and written, exclusive, of course, of matters of mere mechanical accuracy, may be cultivated by the school, but not primarily in classes devoted solely to formal composition. Such is the educational doctrine that lies back of the movement for co-operation in teaching English." — *School Review*, January, 1916, Vol. XXIV, pp. 75–77.

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2. Lally, Eleanor M. A Type Study in English Composition. *Elementary School Journal*, May, 1916, Vol. XVI, pp. 469–474. Describes use of "Life-Saving" as a large topic.

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English Journal. — *If you would be a progressive teacher of expression read the English Journal regularly.*

CHAPTER N

OUTLINE OF THE SYSTEM: GET THE TRANSITION

In order to maintain apparent coherence and system the class at this point should realize how far they have progressed and the transition that is made at the beginning of the next chapter. Both of these matters are suggested by the following outline, which carries the reader through the rest of the book, omitting the chapters on practice teaching and observation. *The transition is indicated by the topics in black type.*

Upon completing the course the student should be able to reproduce the outline and express each topic in the form of one or more principles of teaching. This system of principles should serve him permanently as a guide in his teaching.

MAIN TOPICS

I. Science versus opinion
II. Broadening purposes
III. Economy in classroom management
IV. Selection and arrangement of subject matter
  (1) Social needs
  (2) Relative values
  (3) Intensive treatment
  (4) Psychological arrangement
V. Learning processes
  (1) Special types of learning
    (*a*) Motor — Drill
    (*b*) Association — Drill
    (*c*) Reflective — Problem-solving; Abstractions
    (*d*) Enjoyment
    (*e*) Expression

(2) **General aspects of learning**
- (*a*) **Self-activity**
- (*b*) **Apperception**
- (*c*) Age influences
- (*d*) Interest for economy
- (*e*) Differences in capacity
- (*f*) Supervised study

VI. Sources of subject matter
- (1) Books
- (2) Conversations
- (3) Laboratory

VII. Questioning and testing

EXERCISES ON CHAPTER XII

SELF-ACTIVITY AND APPERCEPTION

Transition to general aspects of learning. — As suggested in the outline on page E156, above, this chapter makes the transition to the discussion of certain *general aspects* of learning as contrasted with the *special types* of learning discussed in the preceding chapters. The first of these general aspects to be emphasized is the fact that a student is educated by his *own* responses or activity; in other words, by his *self-activity*. In the second part of the chapter the principle of *apperception* is emphasized.

Self-activity

1. *Pupils' studying together.* — Should pupils prepare their lessons together? Why? (Consider such matters as specific self-activity desired, personal dominance, personal stimulus, the way expression clarifies one's thinking, social interests appealed to, etc.)

2. *Parental assistance.* — Evaluate ordinary parental assistance of pupils from the standpoint of the principle of self-activity.

3. *Types of mental response.* — (*a*) In the portion of a high-school history lesson printed below, which of the following types of mental response by the pupils are *prominent*?

(1) Enjoyment
(2) Memory
(3) Reflective thinking
(4) Analysis
(5) Comparison
(6) Abstraction
(7) Motor skill
(8) Associating symbols and meanings
(9) Expression

(*b*) Make a memorandum on the margin of the place where each type enters, using the first syllables, as *En.* for enjoyment, etc.

Read the lesson out loud in order to get the full effect of the remarks by teacher and pupils.

PORTION OF A LESSON ON MINOS

Class: Second-Year High-School Greek History

(*Stenographic report of the actual class dialogue*)

(1) TEACHER. *The notes on Gnossus we did n't quite complete. There is one topic left — protection. If you will turn to your notes, I will read to you. Keep close track of it and put down the important facts. For the benefit of the visitors, I will say that this is from "The Sea Kings of Crete," by James Baikie, which is a popularization of the results of the excavations in Crete.*

(Reads passage about protection.)

(2) T. *Just indicate that in your notes.*

(Class writes.)

(3) T. *Ivan, will you read what you have?*

PUPIL. The entrance passage to the stone gangway was but very poor defense — was small and insignificant and could scarcely have withheld an attack.

(4) (T. reads the same passage again.)

Now you may add anything that you want to to your notes.

(5) T. *How would you compare the palace of Tiryns with the palace of Gnossus along this line?*

P. Well, it did n't have much protection, while the palace of Tiryns was protected by great thick stone walls.

(6) T. *Yes, very thick stone walls. There must have been some reason for this difference. Can you account for the difference in any way?*

P. I think maybe the king and queen thought to protect their city by boats.

(7) T. *Yes, by a fleet. What would that indicate about the power of Minos?*

P. That it lay in the navy.

(8) T. *In the navy. What do you think about the other kings in the interior of Tiryns?*

P. I think they had just an army.

(9) T. *Just an army. Would there be more danger of attack in those cases, do you think?*

P. Yes, I think there would.

(10) T. *Explain why there would be more danger in the case of Gnossus.*

P. Because the ships could lie in the harbor and wait for pirates or other fleets, and at Tiryns they could n't do that.

(11) T. *Yes, not quite, though. Do you think the attack would come from the sea in Tiryns and Mycenæ?*

P. I don't think that there would be any but sea fighting in Crete. They would have to come from the sea.

(12) T. *You think there were no enemies practical on land? What would that indicate about the power of Minos over Crete?*

P. He was a very just and good king and all his people were contented.

(13) T. *What do you suppose the power of Minos was in Gnossus?*

P. Well, I think he was king of his own city state, and I think he wanted to work to gain control of the other city states.

(14) T. *Do you suppose he brought them into sufficient subjection so that he did n't need to fear them and the only attack he needed to fear was from the sea, whereas the opposite was the case on land? Turn to the red book. Thucydides was a great historian and wrote about 400 B.C. At the beginning of his history he tells what he knows about it. He says after he gets through with it there is very little of it that he is sure about; most of it is legendary. Even at that early date historians had begun to be skeptical about legends. Turn to page 4; will you read, beginning at the top of section 4?*

(Reads passage describing the sea power of Minos and the state of piracy that existed in his time.)

(15) T. *That is a very interesting passage. It says a good deal about Minos and quite a bit about the danger that might come to Gnossus. What would it indicate along that line? What would be the source of dangers to Gnossus — the pirates?*

P. Just the pirates.

(16) T. *Would other cities along the Ægean have the same danger, do you think?*

P. Yes.

(17) T. *What was the service of Minos to these Ægean cities?*

P. Protection. Protected them from the pirates with his navy.

(18) T. *Why did he do it? He must have been a missionary.*

P. Well, he wanted the cities round about sort of looking up to him, sort of tributary.

(19) T. *But they did pay tribute. Here we find this brutal man that was called half man, half beast, protecting the cities of the Ægean from pirates. It does n't seem in accord with what we read of him yesterday.*

P. He did n't want the other cities plundered because then they would n't pay tribute.

(20) T. *What was the tribute that they had to pay? the tribute Athens had to pay?*

P. People, seven girls and seven boys.

(21) T. *That brings out the brutal part of Minos. He exacted a very human tribute, something as the Phœnicians, as you remember, sacrificed children to one of their gods. So Minos demands a tribute to the god of commerce. Have you noticed how commerce does demand as its victims human victims? That is the bad side of commerce. See it in our country every day. Think of the number of men killed every day by railroad trains. That is the brute side of Minos; the other side comes out here. Can you explain it, Miss Blank? I don't know whether you get the point. Why did he protect the cities? What is the main reason of Minos? Anyone?*

P. I just think that he wanted to exterminate the pirates to protect his own city and incidentally protect the others.

(22) T. *Just incidentally protected the others. He gets no credit, then, for protecting the others. That may be true. It was a great service to them, though, and so they looked upon it as a service to them and would in a way glorify Minos. We will return to that at the end of the hour, possibly.*

Pupil Activity versus Teacher Activity

Many supervisors and observers of teaching judge a recitation by the *relative amount* of *teacher activity* and *pupil activity* (self-active responses by pupils).

4. *Objective standard.* — (*a*) What *objective* standard could you use to determine the relative amount of teacher activity and pupil activity in a lesson?

(*b*) What *limitations* or *inadequacies* would there be in the use of this standard?

5. *Evaluate history lesson.* — (*a*) Evaluate the portion of the "Minos" lesson quoted above from the standpoint of the relative amount of teacher activity and pupil activity.

(*b*) Does your *objective standard* devised in exercise 4 give the same result as a more *informal inspection* of the lesson?

6. *Evaluate participle lesson.* — Evaluate the lesson on participles quoted above, on pages E104–E114, in the manner directed in exercise 5.

7. *Self-evaluation.* — (*a*) If you were teaching, how could you determine whether your instruction was of the type described in the quotation below?

(*b*) What practical device could you adopt to remedy your faults, if you found any?

"After reading the Stenographic Lesson Reports published in the Teachers College Record, September, 1910, the principal of a city school wrote me that he was prompted to a tour of inspection in his school to see if his teachers were doing the large amount of work that seemed to characterize teacher activity in the Reports. By a random estimate he placed the percentage of teacher activity at 85 per cent, 95 per cent, and in a few instances 100 per cent (where he found teachers lecturing). His investigation brought him promptly to the conclusion that the reason why our pupils gain so little in intellectual power is because our teachers do the intellectual work." — Romiett Stevens, "The Question in Instruction"

8. *Criticize literature lesson.* — (*a*) In the light of the preceding exercises criticize the following excerpt from an actual lesson on "The Lady of the Lake."

(*b*) Criticize it from the standpoint of Lyman's editorial given above on pages E152–E154.

PORTION OF A LESSON ON "THE LADY OF THE LAKE"[1]

(*Stenographic report of the actual class dialogue*)

(1) TEACHER. *How much is description used in the story, Mr. T.? Is there very much?*

MR. T. Quite a little.

(2) T. *For what did it seem to be put in?*

PUPIL. I think one place the Canto starts very quietly, and then the clan, gathered in the fiercest preparation, terrible oaths, shows contrasts.

(3) T. *Is it put in then, just as a scene, or for some distinct purpose?*

P. Distinct purpose.

(4) T. *And in this case it was?*

P. Contrast.

(5) T. *What other descriptions?*

P. Nature.

(6) T. *Very much space taken up with descriptions of nature?*

P. Yes.

(7) T. *Have you a pretty fair idea of the country?*

P. Yes.

(8) T. *Better from the poem than from pictures, I think. Why, Miss P., is as much space given to the description and country?*

MISS P. I think it would be necessary, especially when warfare is going on.

(9) T. *Kind of thing that happens, depend on country?*

1ST P. Entirely.

2D P. Scott was a lover of nature.

(10) T. *For itself?*

P. Yes.

[1] Reported in Romiett Stevens's "The Question in Instruction," p. 41.

(11) T. *Do you think the descriptions show a familiarity with the country?*

P. Yes.

(12) T. *What makes you think so?*

P. The names are correct.

(13) T. *That is true.*

P. He has the location of very small matters that others who are not familiar would not have.

(14) T. *Something more?*

P. He seems to know how far it is from one place to another.

(15) T. *Geography. Something more? Superstition used much in this story?*

P. Yes.

(16) T. *Where and how, Miss W.?*

Miss W. A great deal of prophecy; whether they should go out to battle was decided by superstitious means.

9. *Teacher dominance.* — (*a*) In a problem-solving lesson is it necessary that the children solve *every* phase of the problem in order to have a worth-while amount of pupil self-activity? Explain.

(*b*) In terms of the summary of problem-solving activity on pages 199–200 how *much should the teacher dominate* such a lesson?

(*c*) Would the amount of teacher dominance be the same or more or less in a lesson for *enjoyment*? Explain.

(*d*) In a *drill* or practice lesson? (Compare exercise 18 in the chapter on Expression, p. E149.)

(*e*) Summarize the *relative amounts* of teacher dominance in drill, enjoyment, and problem-solving lessons.

Apperception

10. *Varied interpretations.* — Describe and explain in terms of varied past experiences the different interpretations suggested below for the proverb, "A bird in the hand is worth two in the bush."

(1) The interpretation by the author of the proverb.

(2) The interpretation by a first-year high-school girl who learned it, "A bird in the bush is worth two in the hand," and thought this was what was meant.

(3) The interpretation by a modern scientific agriculturalist or a horticulturalist.

(4) The following interpretation by George Ade:

"The most helpful advice for young people is condensed into morals, maxims and proverbs. *A bird in the hand is worth two in the bush.* Great stuff! If you had a bird in the hand you would n't know what to do with it. Besides, with two in the bush you 're liable, with any kind of luck, to have a lot more birds after a while."

Empty Words versus Correct Responses

11. *Verbal definitions.* — Definitions furnish many examples of the learning of words without meanings. Examine the latter part of the lesson on participles given above on pages E104–E114, and show

(*a*) whether it provides for self-activity in the making of the definition or not;

(*b*) whether it avoids meaningless verbalism or not.

12. *Ill-adapted material.* — Indicate which of the following are *ill-adapted* to high-school pupils. Explain.

(1) Assigning a paper on the character of Lady Macbeth to second-year high-school pupils.

(2) Explanatory note in a literary classic: "*Prodigious* — grown portentous."

(3) "Name all the things that you can think of in 'Marmion' that are characteristic of the Middle Ages" — for third-year high-school pupils.

(4) "Yet this enigmatic speech, with its under-senses and its ironies, is after all appropriate to the half-lights, the elemental problems of the theme which is set forth," — for fourth-year high-school pupils.

(5) "Do you think Marmion was a true knight?" — for third-year high-school pupils.

13. *Parker's violation.* — (*a*) How does Parker's use of examples from *golf* in this exercise book violate the principle of apperception?

(*b*) How does he avoid this violation in exercise 9, page E121, above?

14. *Geography: order of topics.* — From the standpoint of the principle of apperception, which is the better arrangement in teaching geography to first-year high-school classes, the following order or its reverse? Why?

(1) Astronomical and mathematical geography.
(2) Surface features, land and water, elevation, erosion, the atmosphere, etc.
(3) Fauna, flora, etc.
(4) Social geography, food supply, manufacture, trade, transportation, etc.

15. *Geography data.* — Why are the following data ill-adapted to give students an idea of the growth of Minneapolis?

"In 1871 only two car-loads of wheat were received in Minneapolis. In 1887 the Great Western road alone brought 33,000,000 bushels of wheat to the elevators at Minneapolis. In 1896, 250,000 barrels of flour were ground in a single week."

16. *History and current events.* — (*a*) From the standpoint of apperception, what is the advantage of connecting historical discussions with current events; for example, paralleling the French Revolution with the Russian Revolution in 1917; examining present examples of the states-rights attitude when discussing the Civil War?

(*b*) History students may test their grasp of history and of current events by citing other parallel examples.

17. *Mathematical biography.* — While reading the life of Pascal reprinted below from a high-school text in first-year mathematics, label each statement as follows:

With *A* if *adapted* to the understanding of first-year students.
With *I* if *ill-adapted* or *incomprehensible* to such students.

" Blaise Pascal, a natural but somewhat erratic genius, was born at Clermont, France, on June 19, 1623, and died at Paris, August 19, 1662. He had displayed exceptional ability by the age of eight, and, despite the discouragements of his father and his teacher, became greatly interested in geometry at twelve years of age. Deprived of books on geometry, he discovered for himself many of the properties of figures. Seeing the boy's determination to study geometry, his father gave him a copy of Euclid's Elements, which he mastered in a few weeks.

" At the age of fourteen Pascal was admitted to the weekly scientific meetings of the French geometricians; at sixteen he wrote an essay of marked originality on conic sections, and at eighteen he constructed an important calculating machine. Thereafter he studied for a time experimental science, then religion, then returned again to mathematics. He formulated a new theorem of conics, still known as " Pascal's theorem," and invented and employed his arithmetical triangle for figurate numbers from which the coefficients of the expansion of a binomial are obtained. He laid down the foundations of the theory of probability, did much work on the cycloid, and exerted himself on the theory of indivisibles. He is said to have worn himself out completely through excessive hard work, so that he died of old age at the age of thirty-nine. See an account of his life and work in some history of mathematics."

18. *Lewis and Hosic's preface.* — Which paragraphs in the quotation from Lewis and Hosic's " Practical English," given above on pages E151–E152, illustrate the principle of apperception? How?

19. *Cheyney's preface.* — (*a*) Show how the quotation given below from the preface of Cheyney's " Short History of England" illustrates the principle of apperception.

(*b*) What *name* do we commonly give to the *tendency* of authors which Cheyney suggests in his first statement that he specifically avoids?

" Finally, I have omitted altogether statements and allusions the significance of which could not be explained in the book; and have tried, on the other hand, to give a clear and adequate explanation

NAPOLEON IN EGYPT

From Robinson's "Medieval and Modern Times." Reproduced here to illustrate the pictorial teaching of history (See exercise **20**, (*a*), p. E169)

of all matters that have been taken up. It is true that this practice may seem to disregard the teacher, who would presumably be competent to explain those things to which the author alludes and to interpret what he merely states. On the other hand, the student must usually deal with the text-book when he is alone, and may be glad to have everything clear at first; while the well-qualified teacher will find a more useful and interesting function in testing comprehension, providing further illustrations, drawing out international relations, and adding personal details to the necessarily general statements of the text-book."

20. *Pictures for ideas.* — (*a*) Why are the cartoons of Napoleon on pages E170 and E171 more effective in historical teaching than the picture on page E168? Give several reasons.

(*b*) What historical ideas would be impressed upon a high-school pupil by study of the cartoon of Napoleon and Pitt?

(*c*) In the picture of the Taj Mahal, on page E173, which is more effective for historical teaching, the picture itself or the descriptive paragraph under it? Explain. Would either be effective without the other?

(*d*) Summarize your conclusions from this exercise concerning the most effective use of pictures in teaching history.

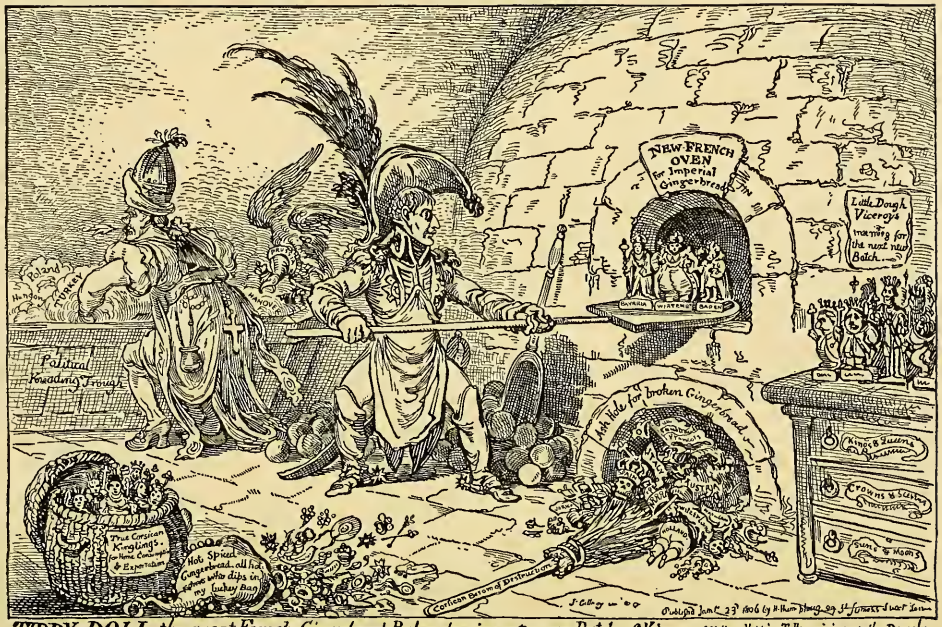
PREPARATION

Putting Pupils in the Proper Frame of Mind

21. *Participle lesson.* — (*a*) In the participle lesson, on pages E104–E114, above, indicate how far the step or process of preparation extends.

(*b*) Describe the several distinct phases of the step or process in this lesson, pointing out specifically where each phase occurs.

(*c*) State the reason, necessity, or desirability for providing each of these phases.



TIDDY-DOLL the great French-Gingerbread-Baker, drawing out a new Batch of Kings.—his Man Hopping Talley, mixing up the Dough

NAPOLEON THE KING—BAKER. TALLYRAND, BISHOP OF AUTUN, IS MIXING THE DOUGH

Two drawings by the English cartoonist Gillray, about 1806. Used here as historical pictures.

NAPOLEON AND PITT DIVIDING UP THE EARTH (See exercise **20**, (*b*), p. E169)

22. *For a current poem.* — (*a*) In reading to a class the following poem from the *Literary Digest* of May 19, 1917, what preparatory remarks or questions would you use?

THE GOLDFINCH

By Odell Shepard

Down from the sky on a sudden he drops
Into the mullen and juniper-tops,
Flushed from his bath in the midsummer shine
Flooding the meadow-land, drunk with the wine
Spilled from the urns of the blue, like a bold
Sky-buccaneer in his sable and gold.

Lightly he sways on the pendulous stem,
Vividly restless, a fluttering gem,
Then with a flash of bewildering wings
Dazzles away up and down, and he sings
Clear as a bell at each dip as he flies
Bounding along on the wave of the skies.

Sunlight and laughter, a wingèd desire,
Motion and melody married to fire.
Lighter than thistle-tuft borne on the wind,
Frailer than violets, how shall we find
Words that will match him, discover a name
Meet for this marvel, this lyrical flame?

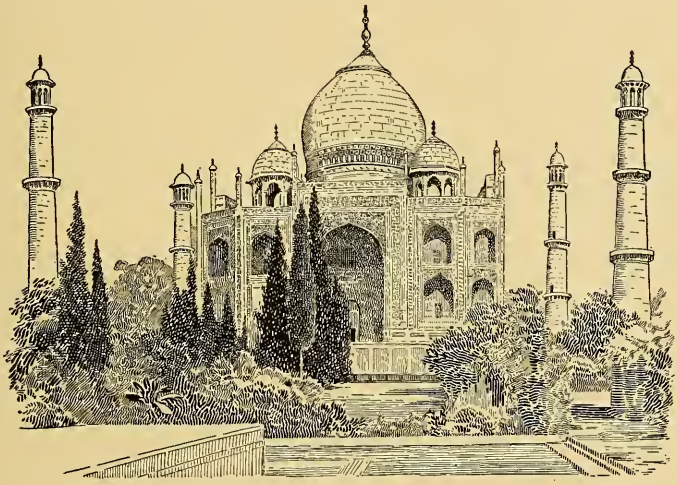
How shall we fashion a rhythm to wing with him,
Find us a wonderful music to sing with him,
Fine as his rapture is, free as the rollicking
Song that the harlequin drops in his frolicking
Dance through the summer sky, singing so merrily
High in the burning blue, winging so airily?

(*b*) Would you use in your preparatory step the following editorial comment by which the poem is preceded in the *Digest*? Why?

"There are many beautiful things in Odell Shepard's 'A Lonely Flute' (Houghton Mifflin Company) — high imagination, rich color, noble emotion. Mr. Shepard is particularly successful when he writes of nature, as in this vivid and flashing sketch."

(*c*) What suggested the phrase "on the wave of the skies" to the poet? (Compare the flight of the flicker.)

(*d*) How do the class answers to this exercise illustrate the principle of apperception?



THE TAJ MAHAL

This mausoleum of an emperor was built at Agra, India, in 1652. It has been described as "the most splendidly poetic building in the world . . . a dream in marble, which justifies the saying that the Moguls designed like Titans but finished like jewelers." The entire building is of white marble, inlaid with precious stones. Although this is regarded as the most perfect monument, India has many others of great magnificence, witnesses of the power and wealth of her princes. From "Robinson's Medieval and Modern Times." (See exercise **20**, (*c*), p. E169)

23. *For a tragedy.* — Would the second sentence on page 311 apply in case a tragedy is being read? Explain.

24. *Parker's devices.* — Point out the devices that Parker uses in the text and exercise book to put pupils in the proper frame of mind.

25. *Teacher's emotional tone.* — Since the teacher's own emotional tone is a large factor in determining the emotional tone of the class, check those of the following practices which *you* would *use* in order to preserve a proper emotional tone as a teacher. Explain your choice.

(1) Read (*a*) the Bible; (*b*) Emerson's Essays; (*c*) the "Consolations of Philosophy," by Boethius; (*d*) James's chapters entitled "The Gospel of Relaxation" and "A Certain Blindness in Human Beings."

(2) Go to church.

(3) Play cards.

(4) Reduce the written work for pupils.

(5) Go to movies frequently.

(6) Exercise (probably walking) two hours a day outdoors as recommended by specialists in nervous diseases.

(7) Sleep eight hours or more each night.

(8) Teach a Sunday-school class.

(9) Attend student affairs.

(10) Read (*a*) fascinating fiction; (*b*) current humor, cartoons, etc.; (*c*) Booth Tarkington's "Seventeen."

(11) Work only eight hours a day.

(12) "Go into the silence."

(13) Take advantage of every opportunity to make a speech.

(14) Try to secure a specialized program of teaching.

(15) Keep pupils after school.

(16) Use your vacations for studying.

(17) Use your vacations for outdoor recreation and geographical isolation from your teaching.

Additional Bibliography

James, William. *Talks to Teachers.* (Henry Holt and Co., 1899.) The chapters entitled "The Gospel of Relaxation" and "A Certain Blindness in Human Beings" are helpful, readable essays on the teacher's emotional tone and on getting the point of view of others, by America's greatest psychologist, a master of English style.

Read "The Last Word" (see pp. E251–E257, below).

EXERCISES ON CHAPTER XIII

INFLUENCE OF AGE ON LEARNING[1]

To correct complacent dogmatism. — The purpose of this chapter is to correct the easy, complacent dogmatism by which many persons settle questions of method by simply saying that such and such types of learning are not suited to children of certain ages. A rapid reading of the chapter should suffice to substitute for this dogmatism an open-minded regard for the problems involved and the evidence available for solving them. Detailed mastery of the arguments presented in the text is not important with undergraduates. Hence only a few exercises are provided to furnish material for a brief discussion. A few of the questions are mere memory questions, but they require a careful selective reading of the chapter.

Read the chapter rapidly in about fifty minutes.

1. *Ages compared.* — What ages does Parker compare in discussing the influence of age on learning?

2. *Opinion versus science.* — For which types of learning does he present measured objective evidence and for which types mere opinion?

3. *Similar argument; motor and vocabulary.* — What is the chief point or argument that Parker presents in discussing the influence of age on *both* motor skill and learning a foreign vocabulary; that is, which general point appears in both cases?

4. *Social futility of foreign languages.* — (*a*) Do Parker's arguments concerning the futility of having most American high-school pupils study a foreign language *convince* you?

[1] Omit this chapter in a short course.

(*b*) If not, why not?

(*c*) If they do, what should the high schools do about the matter? (Remember the large amount of time given to foreign languages and the lack of suitable ready-made material in other subjects.)

5. *Reasoning abilities.* — (*a*) Of the several arguments concerning reasoning abilities which Parker presents, which impressed you as most *unusual* or *interesting*? Why?

(*b*) Which is most *scientific*? Why?

6. *Instincts in enjoyment.* — (*a*) What two *persistent* instincts does Parker discuss in this chapter in connection with enjoyment?

(*b*) From the list of instincts given, on page E177, pick out *two* other instincts which play a *very* large part in the enjoyment of most persons at all ages below thirty.

7. *Resulting frame of mind.* — In what frame of mind does Parker's chapter leave you: confused, convinced, puzzled, argumentative, indifferent, interested, desirous of reading further discussions (on what topics)?

8. *Continue the game.* — If interested, begin the game of making a list of all the examples you can find of *striking successes* of *mature beginners*; for example, individuals who have learned a foreign language or acquired skill in some game easily after twenty-five years of age.

EXERCISES ON CHAPTER XIV

INTERESTS, THE BASIS OF ECONOMY IN LEARNING

Subdivisions. — This chapter contains the following:

I. *General argument* for utilizing pupils' active, spontaneous interests as a means of securing attention and effort;

II. Suggestions for the practical *utilization of certain specific instinctive tendencies and interests.* The list of instincts given in the book includes the following:

(1) Fear of pain
(2) Fear of sarcasm
(3) Individual emulation
(4) Mental activity
(5) Curiosity
(6) Collecting
(7) Manipulation
(8) Physical activity
(9) Communication
(10) Coöperation

Additional instinctive tendencies. — To this list may be added the following instinctive *tendencies to action* or instinctive *interests* for purposes of discussion.

(11) Romance
(12) Adventure
(13) Courage
(14) Love of animals
(15) Love of outdoors
(16) "Wanderlust"; exploration and travel
(17) In moving objects
(18) In rhythm and music
(19) In mathematics
(20) In drawing
(21) In mechanical contrivances
(22) Ownership, and interest in one's own affairs
(23) Barter and exchange
(24) Making a living
(25) Sociability
(26) Desire for social approval
(27) Interest in opposite sex
(28) Showing off
(29) Leadership
(30) Pugnacity
(31) Sympathy
(32) Affection
(33) Love of children
(34) Imitation and suggestion

Three occasions for considering interests. — The occasions or opportunities for interest in school may be classified as follows:

(1) Selecting interesting *subject matter.*

(2) Making *assignments* for study so as to arouse interest.

(3) Conducting interesting *recitations.*

These distinctions will be utilized in the exercises.

Entertainment, Interest, Drudgery, Remote Ends

1. *Active interests versus entertainment.* — (*a*) What is the difference between "utilizing pupils' *active interests*" and "entertaining or amusing pupils"?

(*b*) How does the end of the paragraph at the top of page 338 help in answering (*a*)?

2. *Wage-earner's drudgery.* — Are not the opportunities for *achievement* in the life of the ordinary wage-earner or housekeeper so *meager* that the *interest theory* of life's activities presented on page 339 would not apply to the education of such persons? Explain.

3. *Vocational versus playful interests.* — (*a*) In the list of instinctive interests given above, label such as can be easily determined as follows:

With *V* if primarily *vocational.*
With *P* if primarily *playful.*

Count up your *V's* and *P's* and state the result.

(*b*) Which list would seem to present the largest possibilities from the standpoint of utilizing pupils' instinctive interests?

(*c*) Is there any fallacy in this exercise?

4. *Vocational goal versus present interests.* — In three large Iowa high schools the following vocational choices appeared with others in lesser degree:

Boys. Engineering, 94; farming, 34; business, 33.
Girls. Teaching, 261; office work, 85; nursing, 24.

Which of the following has the greater motive force in the case of such pupils *in their daily school work*?

(1) Such thoughts as "I am going to be a farmer," "I am going to be a teacher," "I am going to be a nurse," or

(2) such ever-present instinctive interests as numbers 3, 4, 5, 6, 7, 8, and 9 given in the list on page E177.

5. *Effectiveness of remote ends.* — (*a*) In general can the high-school student's interest in some remote achievement, such as success in life or in some vocation, be relied on as the fundamental basis for interesting him in *attending high school*?

(*b*) Can it be relied on for *attentive effort in getting daily lessons* in algebra, history, commercial arithmetic, etc.?

6. *Instinctive basis of interest in difficult tasks.* — Which of the instinctive tendencies listed above is at the basis of the interest in *difficult* undertakings described on page 340 of the text?

Spontaneous, Forced, and Divided Attention

7. *Varieties of divided attention.* — (*a*) Is the type of divided attention described in the following paragraph as bad as the divided attention that results from the use of fear of punishment or fear of sarcasm and ridicule, described on pages 348–349? Why?

"Many a class sits entranced as the teacher shows them pictures — they are thoroughly interested and attentive — but they have no interest whatever in the principle or fact which the pictures are to illustrate. A lecturer can always get interest by telling funny stories, but again and again he will find that the real content of his lecture has been entirely neglected. Too often the picture, the story, the specimen or the experiment removes as much interest from the lesson itself by distracting the pupil as it adds by its concreteness, life and action. It is never enough to keep a class interested. They must be interested in the right thing." — E. L. Thorndike, "Principles of Teaching," p. 58

(*b*) Upon what occasions would you consider the devices described in the quoted paragraph to be especially helpful instead of harmful?

Interest in Subject Matter, Assignments, and Recitations

8. *Opportunities in various subjects.*— (*a*) In which of the three items in the above heading has the teacher of *geometry* the *greatest freedom of opportunity* for making the instruction interesting? Why?

(*b*) Compare the opportunities of the teacher of history; of literature.

Interesting Subject Matter

9. *Review.*— Review the following in order to get in mind the previous discussions of selecting interesting subject matter.

In the text: pages 78–93, 273–276.

In the exercise book: pages E48–E50.

10. *Instinctive interests in subjects.*— *After each* of the instinctive tendencies listed above (from (4) to (34) inclusive) write the abbreviations for *one subject* — Hist., Lat., Math., Geog., Chem., Dom. Sci., etc. — in which it *may* be made the basis of interest.

Interesting Assignments

11. *Instinctive basis.*— Select three of the instinctive tendencies which are especially important to consider in making assignments, and explain their use.

Interesting Recitations

12. *Analyze lessons.*— The lessons on *work* (pp. E102–E103), on *participles* (pp. E104–E114), and on "Marmion" (pp. E131–E136) should exhibit all of the factors which aroused interest in them other than the teacher's personality.

(*a*) Point out the reasons or bases for interest in *each* lesson, indicating to which instinctive tendencies it appeals. Fill in the following blanks:

Work lesson appeals to these instincts: _____
Participle lesson appeals to _____
Marmion lesson appeals to _____

(*b*) Summarize the reasons for interest *common to all* three lessons.

Teacher's Personality

13. *Vitality, energy, "pep."* — (*a*) Show how abundant physical vitality of the teacher may contribute interest to recitations.

(*b*) Describe means of cultivating vitality by reference to exercise 25 on page E174, and "The Last Word," pp. E251–E257, below.

14. *Enthusiasm.* — Decide what you mean by *enthusiasm* and then suggest possibilities and limitations of cultivating an enthusiastic teacher-personality under the following headings:

(*a*) As a matter of *general emotional tone.*

(*b*) As a product of *intensive specialization* on a subject; for example, ancient history, botany: advantages and dangers.

(*c*) As a series of *standardized "stunts"* like those of an actor or orator; consider their effectiveness, sincerity, and monotony.

15. *Informality.* — (*a*) Does the fact that informal recitations seem more lively and entertaining indicate *necessarily superior interest* if we conceive of interest as an *active reaching out* after more of the subject? Explain.

(*b*) Try to formulate a statement of the amount of informality and formality desirable in order to achieve (1) interest, (2) definite progress in the subject, (3) maintenance of authority. (Compare exercise 15, p. E32, on the Jesuit method.)

16. *Personal touch in teaching.* — (*a*) What does the topic of this exercise *mean* to you?

(*b*) How can a teacher use it as the basis of interest if he is teaching *one hundred and fifty pupils daily*?

(*c*) Should he *specialize* his energy and time for *personal touch* upon those who need it most?

(*d*) *Who* would *need it most*?

Specific Instincts

17. *Emulation.* — Explain your answers to each of the following:

(*a*) Do you consider all emulation vicious?

(*b*) *Should* society dispense with it?

(*c*) *Can* society get rid of it?

(*d*) Will *socialism eradicate* it?

(*e*) Will socialism so *reduce* its operation as to *decrease social progress*?

(*f*) How does Parker's discussion on page 345 assist in answering this exercise?

18. *Communication versus expression.* — (*a*) Which is more helpful in thinking of interest in recitations, to think of (1) the instinct of *communication* or (2) the instinct of *expression*? Why?

(*b*) Would a memory recitation of matter studied by all pupils in a textbook involve *communication*?

(*c*) Would it involve *expression*?

19. *Curiosity.* — Does the utilization of curiosity during recitations necessarily mean using very strange, unusual examples? Explain.

20. *Collecting.* — Pupils in good elementary schools make their own loose-leaf manila-paper notebooks and paste up hundreds of pictures, poems, notes on current events, etc. collected from various sources including current magazines, railroad offices, steamship lines, and government bulletins.

(*a*) Why don't high-school classes follow this practice more frequently?

(*b*) Describe two collections that might be made in this way in high-school subjects, giving topic, materials to be collected, and sources.

LEÇON 6

ORDRES

Prenez un bonbon; dites *merci.*

Riez; ne riez pas; ne *causez* pas.

Ne cessez pas; *continuez.* — From Gourio, "La Classe en français." See exercise **24**, (*b*), p. E184.

21. *Humor.* — (*a*) A teacher of French in teaching the form of negative expressions by the direct method used such absurd examples as, "I do not dance with my head," "I do not think with my feet." Do you think this is a *suitable* and *effective* form of humor for high-school classes? Why?

(*b*) How *frequent* and how *continuous* should the humorous spirit be in a recitation in geometry? in French? in English composition?

(*c*) Is Parker's use of Taylor's poem in exercise 8, on page E120, above, justified? Why?

(*d*) Should a teacher become ambitious to be known as a wit? Why?

(*e*) Summarize the outcome of the discussion of this exercise.

22.[1] *Interest in marks.* — (*a*) Name three instincts which lead pupils to desire to know their marks.

(*b*) Which of these are reprehensible?

23. *Pictures for interest.* — (*a*) To what instinct does the picture on page E185 appeal?

(*b*) Would this picture be useful to accompany a story in reading a foreign language? Why?

Interest in Various Subjects

24. *Foreign language.* — (*a*) To which instinctive interests (see list on page E177) would the Gouin method described on pages 130–134 appeal to which a grammar-translation method would *not* appeal?

(*b*) To what instinctive interest do the picture and lesson in French on page E183 appeal?

(*c*) Do you consider the type of material noted in (*b*) especially suited to first-year high-school pupils? Explain.

25. *Miscellaneous devices.* — (*a*) In the list of devices given below and on page E187 check those which you would use occasionally in securing interest in the subject or subjects which you plan to teach.

(*b*) Describe how you would use them.

(1) Exhibits
(2) Calendar of school events
(3) Clubs
(4) Plays; dramatization
(5) Songs
(6) Games like authors
(7) Jingle rimes
(8) Easy supplementary reading

[1] This exercise is from Thorndike's "Principles of Teaching."

WHAT DO YOU SUPPOSE THE ABOVE PICTURE IS ABOUT?

From Harrison's "Spanish Reader." (See exercise **23**, p. E184)

" SORROWING POLAND "

Cartoons bulletined by Mr. V. L. Minor in a class in modern history. The reading matter describes the several partitions and invasions of Poland. Reproduced here by permission of the *Chicago Tribune*

E186

(9) Cork bulletin board
(10) Cartoons (see picture on page E186)
(11) Pictures
(12) Graphs
(13) Excursions
(14) Specialized topics for occasional short oral reports
(15) Exchange of letters between a day-school class in composition and a night-school class in English for foreigners
(16) Contests in writing articles, the best to be published in the local paper
(17) *Individual* contests with neighboring schools
(18) *Team* contests with neighboring schools
(19) Create an *atmosphere of the subject* in your classroom

26. *Write a summary.*— Copy and complete the following summary for yourself. Write not more than twenty words in the blank parts and *hand it in.*

"In order to maintain interest in my classes, in addition to the use of occasional special devices, *I shall endeavor always* (1) To keep myself _____

_____

(2) To utilize the common instinctive interests of pupils in
(*a*) _____ (*b*) _____
(*c*) _____ (*d*) _____ (*e*) _____
(*f*) _____"

I expect to teach the following subjects :

_____

Additional Bibliography

1. Clark, T. A. *The High-School Boy and his Problems.* (The Macmillan Company, 1920.) By a noted college dean of wide experience. Attractive reading. Not always scientific.

2. King, Irving. *The High-School Age.* (Bobbs-Merrill Company, 1914.) See Chapters X, XI, and XIII on interests of high-school pupils.

3. Tarkington, Booth. *Seventeen.* (Harper & Brothers, 1915.) An amusing account of the social trials and tribulations of a youth of seventeen.

CHAPTER O

BE AN ARTIST–TEACHER

Emulate actors, writers, and painters. — A teacher has the same opportunity to achieve artistic successes as the actor, speaker, writer, or painter. Like these artists, he strives to produce certain definite *audience effects*, to influence persons to think, feel, and act in certain specific ways. Like these artists, he may specialize in order to *perfect his technique* in securing the particular effects and types of responses he desires, just as an actor may specialize in comedy or tragedy, a painter in portraits or landscapes.

Avoid monotony and enjoy varied successes. — If teaching is regarded in this way, its outlook need not be one of dreary monotony, any more than the outlook of the enthusiastic landscape painter who experiments year after year with increasing success in representing color combinations, or the outlook of the actor who plays the same type of part year after year with enthusiastic interest. The audience stimulus and the desire for artistic achievement furnish some of the strongest motives to human effort. In the teacher's activity both may be particularly impelling because of the intimate relation between the artist-teacher and his class audience. This intimacy enables the teacher to realize in a very personal way the effect of his efforts, to enjoy quickly his success, and to feel keenly at times the need for improvement in certain points of technique.

Teach some parts very well. — The high-school teacher may early begin to achieve artistic successes by endeavoring to teach very well small portions of his subject. By thus

limiting his efforts to a few small units, he may perfect these far above the average of his success with the rest of the subject. Eventually he may extend his artistic technique to all phases of his work.

Begin now.— Even *prospective* teachers can enroll for artistic apprenticeship by observing and studying the technique of some specialized phase of teaching. The specialized observations assigned, on page E141, probably contained suggestions of such possibilities. Further suggestions are contained in the following topics:

(*a*) Teaching the first book of geometry slowly and carefully so as to train pupils in geometrical analysis and avoid the habit of merely memorizing propositions.

(*b*) Teaching five of the more important and useful abstract ideas in algebra by careful conversational lessons which assure real understanding instead of mere juggling of symbols.

(*c*) Teaching effective writing of narrative letters or business letters.

(*d*) Use of current events in interpreting a limited selected list of historical situations.

(*e*) Organization of ten lessons on the use of current magazines to form habits of enjoying reading serious contemporary material.

(*f*) Same as (*e*) for high-grade current fiction.

(*g*) Development of skill in dramatizing the meaning of the first two hundred words to be taught in French or German.

(*h*) Selection of real everyday problems as the starting point of fifteen of the experiments in a laboratory manual in some science.

An inspiration, not an assignment.— The above discussion is intended to develop an artist's attitude toward teaching. *It is not an assignment.* Its purpose is inspiration.

EXERCISES ON CHAPTER XV

ADAPTING CLASS INSTRUCTION TO DIFFERENCES IN CAPACITY

Requires fine art in teaching. — The heading of this chapter points out one of the highest and most difficult achievements in artistic teaching. Consequently, beginning teachers can be expected to do little in the practical adaptation of their class instruction to the varying capacities of the students in the class. For this reason an hour or two spent in the discussion of this chapter should be adequate.

Emphasize statistical facts. — The discussion should emphasize the *statistical facts* which prove the desirability of *avoiding the waste* that results from failure to provide for individual differences. In addition, *a few of the practical proposals* for improvement may be considered. A small number of exercises is adequate for both of these purposes.

Connect heated discussion with objective facts. — It will be found that students have many additional questions to raise concerning the validity of the arguments stated or implied in certain parts of this chapter and the exercises. In order to maintain a scientific attitude in this discussion it is important to keep constantly before the class the objective, statistical facts presented in the text and in the exercises.

1. *Science and opinion.* — (*a*) Which of the following is *more scientific* according to page E12? Explain.

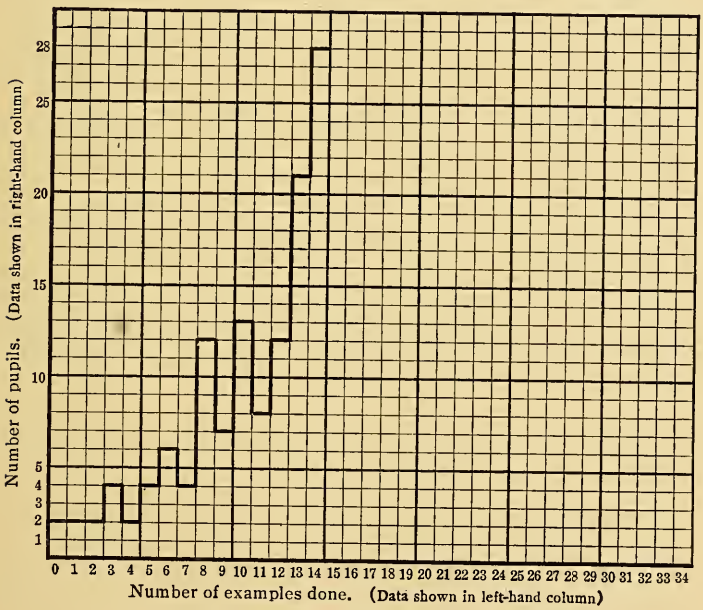
(1) The statements on page 366 by Harris concerning simultaneous instruction or (2) the statements by Thorndike (p. 367) and Courtis (p. 372)?

(*b*) Is the least scientific of these statements an opinion that should be given *great* or *little* weight? Why?

2. *Graph differences in ability in algebra.*—The graph which is begun below is based on Monroe's table of achievements in algebra on page 374, using the data in the extreme left-hand and right-hand columns. Begin to read these columns from the bottom, as follows:

0 examples were done right by 2 pupils.
1 example was done right by 2 pupils.
2 examples were done right by 2 pupils.
3 examples were done right by 4 pupils.

These data give the lower left-hand side of the graph.



INCOMPLETE GRAPH OF ABILITIES IN ALGEBRA

Assignment.—After reading the description of surfaces of frequency on pages 375–378, complete the graph which is started above, by using the rest of the material in Monroe's left-hand and right-hand columns.

3. *Range and waste in algebra.* — (*a*) Find the score of the tenth pupil from the top of the right-hand column in Monroe's table or in the surface of frequency made in exercise 2.

(*b*) Find the score of the tenth pupil from the bottom.

(*c*) Answer the questions on page 371 as applied to Monroe's table, using the score from (*a*) as "highest score" and the score from (*b*) as "lowest score."

4. *Differences in reading rate.* — (*a*) Make and hand in a surface of frequency (on cross-section paper preferably) based on the data on the rates of reading of 171 high-school pupils shown in the *lower* table on page E193. Use the left-hand and right-hand columns ("Number of Words" and "Total Pupils"), and begin at the top of the columns in order to secure the lower left-hand end of the graph.

(*b*) Answer the questions on page 371 as applied to this table or surface of frequency.

(*c*) Explain and illustrate the following statement, especially the italicized words:

"The rates of reading of high-school pupils are among the most *important*, *useful*, and *objective* facts that can be determined concerning the differences in abilities of such pupils."

RATES OF SILENT READING OF 171 PUPILS IN UNIVERSITY OF CHICAGO HIGH SCHOOL

SECURED IN AN INVESTIGATION BY WILLIAM S. GRAY

Source of reading rates. — The reading rates given in the tables were secured by testing the pupils individually. The technique had been perfected by prolonged experimentation, and is described in W. S. Gray's "Studies of Elementary School Reading," *Supplementary Educational Monograph*, 1917, The University of Chicago Press. The pupils were told to read *rapidly* but *carefully*, and informed that after they had finished they would be asked to write an account of what they had read.

GROSS DISTRIBUTION OF HIGH-SCHOOL READING RATES

NUMBER OF WORDS PER MINUTE	FRESHMEN	SOPHOMORES	JUNIORS	SENIORS	TOTAL PUPILS
76–100			1	1	2
101–125		1			1
126–150	3	6	2	9	20
151–175	3	17	3	4	27
176–200	4	20	9	16	49
201–225	1	13	8	7	29
226–250	1	6	5	3	15
251–275	3	7	6	1	17
276–300		6		1	7
301–325					
326–350	1	1			2
351–375		1		1	2
Total	16	78	34	43	171

PERCENTAGE DISTRIBUTION OF HIGH-SCHOOL READING RATES

NUMBER OF WORDS PER MINUTE	FRESHMEN	SOPHOMORES	JUNIORS	SENIORS	TOTAL PUPILS
76–100			3	2	1
101–125		1			1
126–150	19	8	6	21	12
151–175	19	22	9	9	16
176–200	25	25	26	38	28
201–225	6	17	23	17	17
226–250	6	8	15	7	9
251–275	19	9	18	2	10
276–300		8		2	4
301–325					
326–350	6	1			1
351–375		1		2	1
Total	100	100	100	100	100

"DIAGNOSIS OF SILENT-READING RATES OF HIGH-SCHOOL PUPILS

"*Directions for Experiments*

"BY WILLIAM S. GRAY

"In order that high-school principals and teachers may have a means of testing the rate and quality of the reading done by their pupils, the following directions for conducting a simple experiment are provided.

"*To determine the rate of silent reading of high-school pupils.* — Choose a selection similar in difficulty to the lessons assigned to your class. See to it that each pupil has a book, pencil, and sheet of paper at hand. Give the following directions: 'Turn to page ——. Presently I shall read aloud a portion of this page. Each pupil should follow the reading carefully. At the exact second that I read the last word on this page turn to the next and read silently. Continue reading rapidly but carefully until the signal "Stop" is given. Mark immediately the word you were reading at the instant the signal was given. Then continue reading to the bottom of the page. Later I shall ask questions concerning the selection, or I may ask you to write about it.'

"Read aloud to the class to the bottom of the page — discontinue reading and note the exact second. The pupils should continue reading according to directions. When exactly thirty seconds have passed give the signal to stop. See that each pupil marks immediately the point reached in his reading. At your earliest convenience make a record of the number of words read. The pupils might be asked to count the number of words read in thirty seconds and to hand in the results on slips of paper or the teacher might count the words herself.

"*To determine the ability of high-school students to understand what they read.* — (*a*) As soon as the pupils have discontinued reading the selection ask them to reproduce in writing what they have read. Give everyone sufficient time to finish. Read the reproductions, crossing out all wrong statements, all irrelevant statements and all repetitions. Count the remaining words and use this number as the pupil's index of efficiency.

"(*b*) Prepare a series of questions of approximately equal difficulty, and ask the pupils to write the answers. Grade upon a

percentage basis, giving 5, 10, or 12½ points for each correct answer, according to the number of questions asked.

"(*c*) Depending upon the character of the story, pupils might be asked to reproduce the most important topics in the selection, to organize the major points and supporting details topically, to show the relation of the selection to certain historical, geographical or scientific facts studied, etc.

"The results of these tests should be made the basis of many wise criticisms and constructive suggestions to the class as a whole and to special individuals. The points of weakness should be made the basis for further drill and intensive study. Upon the basis of the results of the tests, assignments may be planned more intelligently both from the standpoint of quantity and content."

5. *Normal distribution of students' grades.*— (*a*) *Summarize the arguments* in favor of the distribution of students' grades given on page 379 of the text.

(*b*) *How do your surfaces of frequency* made in exercises 2 and 4 *contribute* to these arguments?

(*c*) Make a distribution surface for the grades as given on page 379.

(*d*) Does this scheme indicate *where* the "conditioned" or "failed" line is drawn? Explain.

(*e*) Does it *imply* that there must be a *certain percentage of failures* and conditions? Explain.

(*f*) *Who* and *what* determines the failure point? (Compare the long quotation on page 12 of the text.)

(*g*) If a teacher's grades for the year, after having taught 200 pupils, show 20 per cent of E's and 40 per cent of D's, *what is the matter*?

(*h*) If, under similar conditions, a teacher's grades show 20 per cent of A's and 40 per cent of B's, *what is the matter*?

6. *Grading capacity, effort, and achievement.*— (*a*) What would be the advantages for the *school*, for *society*, and for the *pupil*, of having each teacher give each pupil three grades; namely, for *capacity*, for *effort*, for *achievement*?

(*b*) Which of these factors is the single grade, which is ordinarily given, supposed to represent?

(*c*) Which of these grades would be the most *objective*? Explain.

(*d*) Would the lack of objectivity in the other two *make it inadvisable* to have on record a teacher's *opinion* in these two matters? Explain.

(*e*) What bearing on this discussion has the classic admonition to "know thyself"?

(*f*) What bearing has paragraph 2 on page 178?

7. *Varied assignments; special seat work.*— (*a*) Which *one* of the three phases of the scheme described on pages 385–386 *might* a teacher use *after one year of experience* in teaching a subject?

(*b*) When and under what conditions could a teacher adopt the *other two* phases?

8. *Individual attention to slow, mediocre, and bright.*— Assuming that some scheme of individual instruction (supplementary to class instruction) is adopted, would you say that *society would profit most* if the teacher distributed the individual instruction (time and energy) as follows: for *one* minute given to each *bright* pupil give *two* minutes to each *mediocre* pupil and *three* minutes to each *slow* pupil? Explain. (*Compare* the middle of the quotation on page 12, "*Such need us* less than the others do.")

9. *Is success of Batavia scheme valid?*— Superintendent Kennedy's account of the success of the Batavia scheme (see No. 4, p. 417) shows that it does keep slow pupils from failing.

(*a*) What social economy is there in this? (Consider in this connection the cost per pupil for one year of high-school education.)

(*b*) Is there any validity in the objection that these pupils had to be "bolstered up" all the way through school in order to pass? Explain.

10. *Time assignments versus quantity assignments.*— Would it be a good practice to tell pupils to *work one hour* on an assigned lesson in mathematics or Latin instead of telling them to complete a given number of problems or lines? Explain.

11. *Special cases.* — (*a*) How should you stimulate the *bright but lazy* pupil who is satisfied with mere passing in a subject?

(*b*) Would it help the *glib, talkative,* but *nonstudious* pupil to tell him that he would have to study if he expected to be allowed to recite? Explain.

(*c*) How would you give the *timid, bashful, conscientious* pupil proper encouragement and training in recitations?

(*d*) State how special adaptations to individual needs are suggested in Chapters IV, IX, and XI.

Additional Bibliography

1. Cabel, E. D. English for the Hopeless Pupil. *English Journal*, March, 1915, Vol. IV, pp. 207–208.

2. Drake, E. H. An Interesting Experiment [with minimum and maximum assignments]. *Elementary School Journal*, December, 1914, Vol. XV, pp. 219–222.

3. Clerk, F. E. The Arlington Plan of Grouping Pupils according to Ability. *School Review*, January, 1917, Vol. XXV, pp. 26–47. Elaborate descriptive, statistical, and argumentative account of actual use of plan of placing bright, mediocre, and slow pupils in separate classes.

4. Meek, C. S. A Study in Retardation and Acceleration. *Elementary School Journal*, April, 1915, Vol. XV, pp. 421–431. Account of an actual experiment in promoting individual pupils according to their needs.

5. Schorling, R. Problem of Individual Differences in the Teaching of Secondary-School Mathematics. *School Review*, October and December, 1915, Vol. XXIII, pp. 535–549, 649–664. Elaborate account of actual experiments. Includes pupils' testimony on value of types of individual adaptation used.

CHAPTER P

CONDENSE INTO A USABLE SYSTEM

Throw overboard unnecessary details. — Toward the end of the course the class should begin to *throw overboard* those ideas of teaching which they are not going to remember and to realize clearly the system of practical ideas which they should carry away and apply. This process is suggested at two places in the text. On pages 76–78 it is pointed out that the details which are necessary in the initial study of topics may be forgotten after they have served their purpose, so that the one tenth which is remembered may consist of the large fundamental issues. Again, in the quotation on page 218 James speaks of the "dropping out and throwing overboard of conscious content" as a person becomes wise in a given field of study and is able to think of it in terms of its larger aspects and their interrelations.

Forget details and remember coherent system. — Hence, if we combine the idea of forgetting details with the idea of maintaining apparent coherence (described above, on pages E52–E53), we get the notion of *condensing the course into a system* of large ideas about teaching.

Each student to apply the course. — By adding the further idea of having each student remember the parts of the course which *he can use* to best advantage in *his* future teaching, we secure the notion of condensing the course into a *usable*, *practical* system of ideas concerning methods of teaching.

Three assignments. — In order to assist the students in this process, three assignments are provided, as follows:

(1) Study of the coherent outline of the course, given on page E156, above.

(2) A cut-down final examination covering about one hundred and seventy-five selected pages of the text.

(3) A paper by each student containing selected ideas of methods of teaching which he plans to use.

Assignments (1) and (2) will be discussed later. Assignment (3) should be made at this point, and is described below, under the title "I Shall Try."

I Shall Try to Apply the Following Ideas in my Teaching

The most valuable assignment in the course. — The following assignment is the most valuable in the course, since it concerns each student's practical application of the course in his future teaching. It requires a *review* of the text by each student and *self-active selection* by him from the whole course of those ideas which he expects to use.

Assignment. — (1) *Write a paper* containing twenty-five practical ideas selected from Parker's textbook which you will plan to use in your future teaching.

(2) In the case of *each of ten* of these ideas indicate in some detail how you expect to carry it out; that is, write from one half to one theme page illustrating concretely its application in your special plans. Suggestions of such applications may be secured from your previous examination of textbooks and periodical articles on the teaching of your subjects and from observations.

If you know the position which you will occupy next year, write your paper to apply specifically to it.

(3) *Divide your paper* as follows:

I. The *simpler points* of technique which it will be relatively easy for you to master in your early teaching.

II. The more *difficult phases of artistic teaching* which you may undertake in your later experience.

Inexperienced beginners should place about fifteen easy points under I and ten more difficult artistic matters under II. Experienced teachers may divide their points between I and II in varied proportions.

(4) *Arrange your paper* in the following form:

I SHALL TRY

I. *In my early teaching,*
1. To arrange etc. _____
. _____
2. To maintain etc. _____
. _____
. _____
. _____
15. To secure etc. _____ by etc. _____
. _____

II. *In my later teaching,*
16. To provide for _____ by etc. _____
. _____
17. To adapt etc. _____
. _____
. _____
25. To organize etc. _____

(5) *Canvass the whole text* for ideas, not omitting the later chapters, especially Chapter XVII (on books), Chapter XX (on questioning), and Chapter XXII (on testing).

(6) *Teach the instructor* of the course by your specific applications, as he will find that he can learn much from his students concerning their special fields of teaching.

(7) *Hand in your paper* —— days before the final examination, so that it may be read and returned to you at the examination.

(8) *Keep your paper* and actually *use and apply* it in your teaching.

Follow-up Letter concerning "I Shall Try"

December 15, 191?

Miss Hopeful Beginner
Pleasantville High School
My dear Miss Beginner:

Do you remember the "I Shall Try" paper which you wrote in Education 87(?) setting forth the efforts you might make to achieve artistic teaching?

Have you ever thought of the possibility of actually trying out some of the ideas expressed in your paper?

If you have not, when you go home for the Christmas holidays, dig out the paper and put it in your traveling bag to read when you return to teaching. Don't put it in your trunk or you may forget to read it. Moreover, don't read it during the holidays, as you probably need the vacation, especially plenty of outdoor recreation.

After you have tried out some of the methods described in your paper, I shall be glad to hear from you concerning your success.

Perhaps you will have some suggestions concerning the way in which the course in Methods of Teaching might have been made more helpful to you.

If you continue to teach, I suggest that you choose some limited topic or phase of your work and experiment from class to class or year to year with it until you have worked it up into a finished, artistic piece of teaching. Then write a description of your methods and send it to some appropriate journal, such as the *English Journal* or the *History Teachers' Magazine*, for publication.

With best wishes for a pleasant vacation and for health, happiness, and success as a teacher, I remain,

Yours sincerely
Every Professor of Education

P.S. Put this letter where you will be sure to notice it when you go home.

Follow-up methods. — Follow-up methods which are used so effectively in business could be used with equal success in improving high-school teaching. California, which sets so many good examples in education, not only requires its high-school teachers to be professionally trained college graduates with one year of additional graduate study but also has a plan for following up beginning high-school teachers and inspecting and improving their work.

EXERCISES ON CHAPTER XVI

SUPERVISED STUDY

More fine art in teaching. — As in the case of provisions for individual differences discussed in Chapter XV, the skilled conduct of supervised study involves very artistic teaching. In some subjects, like mathematics, it is *relatively* easy to devise and master a technique of supervising study. In most subjects, however, little progress has been made even by skilled teachers in *devising and defining* a technique that some other teacher could imitate. Owing to these difficulties it is well to avoid spending too much time on this chapter.

Need introduction to progressive practice. — The fact that many progressive high schools now include supervised study as a regular part of each teacher's duties makes it desirable, however, to *introduce* students of education to some of the problems involved, even though conclusive answers are lacking to many of these.

The discussion is arranged under the following headings:

Conditions in Home Study.
Statistical Investigations.
Organization of Supervised Study.
Favorable Conditions for Study.
Favorable Habits of Study.
Printed Directions for Study.
How to Assist Pupils when they are Studying.

Important exercises. — Be sure to assign exercise 17 (p. E208), and discuss it briefly when assigning it. Exercise 21 (p. E210) also is worthy of careful study.

Conditions in Home Study

1. *Pupils' difficulties in studying.* — To what extent is the following incident typical of high-school pupils' difficulties in getting their lessons? Explain with examples from your own observation.

An *honor* graduate of a high school said, "In my first year of high school I frequently had to seek assistance from my former eighth-grade teacher, in order to get my lessons in algebra and Latin."

2. *Influence of home environment.* — (*a*) Write a sentence which states the facts of *vertical* column I of the table at the top of page 396. Begin your sentence as follows: "Of the students from homes of first rank, 75 per cent had ——."

(*b*) Write a similar sentence for column III.

(*c*) Write a similar sentence for the first *horizontal* row of the table at the bottom of page 396. Begin this sentence as follows: "Of the students doing assigned home study ——."

(*d*) Write a similar sentence for the second horizontal row in the lower table.

Statistical Investigations

3. *Validity of Breslich's investigation.* — (*a*) Show how Breslich's experiment, described on pages 397–399, has the characteristics of a scientific investigation as described on page E12.

(*b*) Have you any questions or doubts concerning the *validity* of his *technique* or *conclusions*?

4. *Amount of study by good students.* — From Reavis's (rĕvis) table of Latin grades at the bottom of page 399 of the text, what general statement can you make concerning the amount of time put in by the students who make the best grades? (Omit the three students who put in no time but made A and A+. Why?)

5. *Failures in a Latin class.* — (*a*) Make a rough surface of frequency for the grades in the table on page 399. How is the distribution peculiar?

(*b*) Is the number of conditions and failures justified? Explain.

Organization of Supervised Study

6. *Periods for supervised study.* — (*a*) Show how a teacher may organize supervised study with *ordinary* high-school periods.

(*b*) Why do some high-school principals insist on a stated division of each teaching period into (1) recitation and (2) supervised study?

(*c*) Would this division be necessary for *you*? Why?

Favorable Conditions for Study

7. *Examine Frontispiece.* — (*a*) What unfavorable conditions for study are shown in the upper picture of the Frontispiece of this exercise book?

(*b*) How are the conditions better in the lower picture?

8. *Testimony concerning study program.* — Do the testimonies on page 405 sound sincere? Explain.

Favorable Habits of Study

9. *Getting started to study.* — (*a*) Underline the most important general statements *for a teacher* in the quoted paragraph by Breslich, on page 406, and label them "Exercise 9."

(*b*) Show the relation between Breslich's paragraph and the discussion of general attitudes of attention given at the bottom of page 358.

10. *Underlining.* — In the directions for study on page E15 why does Parker say *not* to underline whole sentences? There are three good reasons.

11. *Individual differences in study habits.* — (*a*) Some *superior students* read and understand so rapidly that written *outlining retards the pace* of their studying. Should such persons make written outlines when studying? Explain.

(*b*) Do any of Parker's suggestions for study given on pages E15 and E25 seem unfitted to your own mental disposition or habits of study? Explain.

Printed Directions for Study

12. *Lewis and Hosic's directions for study.* — In the following directions for studying Lewis and Hosic's "Practical English," indicate how each paragraph *parallels* (label *P*) Parker's discussion or supplements (label *S*) by adding ideas not discussed in the text or exercises. Make a memorandum of the corresponding page in Parker after each *P* label.

"1. THE USE OF THIS TEXTBOOK

"Spend one study period in examining this book. Discover the following:

"1. The purpose it is meant to serve.

"2. The manner in which it is intended to be used.

"3. What parts of it are most interesting.

"4. In what ways it will be useful to you.

"5. Who wrote it, and when and by whom it was published.

"6. How the index is arranged.

"7. Whether there are other features of the book worth considering.

"Be prepared to discuss with your classmates the points outlined above. In discussion try to be clear and courteous.

"First of all, learn how to study."

13. *Use of study directions.* — What steps would high-school teachers have to take to make printed directions for study actually affect the study habits of high-school pupils?

14. *Preferred directions.* — Which set of directions for study do you prefer, those by Reavis on pages 411–412 or those on pages E207–E208? Why?

STUDY HELPS FOR STUDENTS[1]

PREPARED BY THE TEACHERS OF THE UNIVERSITY OF CHICAGO HIGH SCHOOL

The habits of study formed in school are of greater importance than the subjects mastered. The following suggestions, if carefully followed, will help you make your mind an efficient tool. Your daily aim should be to learn your lesson in *less* time, or to learn it *better* in the *same* time.

1. Make out a definite daily program, arranging for a definite time for each study. You will thus form the habit of concentrating your thoughts on the subject at that time.

2. Provide yourself with the material the lesson requires; have on hand textbook, notebook, maps, ruler, compass, special paper needed, etc. When writing, be sure to have the light from the left side.

3. Understand the lesson assignment. Learn to take notes on the suggestions given by the teacher when the lesson is assigned. Take down accurately any references given by the teacher. Should a reference be of special importance, star (*) it so that you may readily find it. Pick out the important topics of the lesson before beginning your study.

4. Learn to use your textbook, as it will help you to use other books. Therefore understand the purpose of such devices as index, appendix, footnotes, maps, illustrations, vocabulary, etc., and use them freely.

5. Do not lose time getting ready for study. Sit down and begin to work at once. Concentrate on your work; that is, put your mind on it and let nothing disturb you. Have the will to learn.

6. As a rule it is best to go over the lesson quickly, then to go over it again carefully; for example, before beginning to solve a problem in mathematics read it through and be sure you understand what is given and what is to be proved; in translating a foreign language read the passage through and see how much you can understand before consulting the vocabulary.

[1] Copies of these helps may be secured from The University of Chicago Press.

7. Do individual study. Learn to form your own judgments, to work your own problems. Individual study is honest study.

8. Try to put the facts you are learning into practical use if possible. Apply them to present-day conditions. Illustrate them in terms familiar to you.

9. Take an interest in the subjects taught in school. Read the corresponding literature in your school library or home. Talk to your parents about your school work. Discuss with them points that interest you.

10. Review your lessons frequently. If there were points you did not understand, the review will help you to master them.

11. Prepare each lesson every day. The habit of meeting each requirement punctually is of extreme importance.

How to Assist Pupils when they are Studying

15. *Circulating teacher.* — Which is better: (1) for the teacher to circulate among the pupils, giving help in turn, or (2) for the teacher merely to respond to appeals for help? Explain.

16. *Objective evidence of pupil's thinking.* — In connection with the discussion on page 412 describe the *objective product* which you would expect to see in determining a pupil's needs for suggestions while he is studying some particular assignment in each of the following:

Algebra	Composition
Geometry	Physics
Latin	Chemistry
German or French	Literature

17. *Assisting pupils in analysis.* — This exercise contains a problem from arithmetic or algebra which practically all college students can understand.

In answering the exercise, note that *you are not asked to make the calculations.* It is necessary, however, for you to *analyze* the complicated problem in its larger aspects.

In your analysis determine *first* the two fundamental parts of the problem. Then make parallel linear diagrams to represent each of these parts. Then indicate on the diagrams distance, rate, and time as known or unknown quantities. In order to answer the exercise it will *not* be necessary to carry your analysis to the smallest details.

(*a*) Write out five suggestions or questions which you would use in assisting a junior high-school pupil to analyse the problem printed below. *Arrange these in the order in which you would expect to use them.*

(*b*) State the reasons for the order of your suggestions.

(*c*) Would *solving* the problem waste a pupil's time? Why?

(*d*) Would *analyzing* it waste his time? Why?

DATA FOR EXERCISE 17

"John left Central Square at 9 A.M., riding a bicycle whose wheels were each 30 inches in diameter, and rode for two hours, pedalling at such a rate as to make ninety revolutions of the rear wheel per minute. After stopping 20 minutes to rest he continued, but at a rate only two-thirds as fast. Fred started from Central Square at 10 A.M., followed the same route as John for one hour, then rode a mile off the road and a mile back again. He then continued after John. His wheel was so geared that each revolution of the crank shaft carried him the same distance as a wheel of 72 inches diameter would carry anyone in a single revolution. He pedalled throughout at such a rate as to make 36 revolutions of the crank shaft per minute. How far behind John would he be at 12 o'clock?" — Thorndike, "Principles of Teaching," p. 173.

18. *General plans for assignments.* — (*a*) From the quotations from Breslich on pages 414–416 work out a statement of the plan which you would follow in making assignments for the *unsupervised part* of the studying to be done by pupils *in your special subjects.*

(*b*) What *additions* would you make to this statement from the standpoint of the chapter on *interests*?

19. *Solve these difficulties.* — (*a*) What is the probable explanation for each of the occurrences described below?

(*b*) What steps should be taken to remedy the difficulty?

(*c*) What relation do they bear to page E203?

(1) In one supervised study class the children merely idled and chewed their pencils until the teacher came to them; between suggestions most of the children merely fooled away their time.

(2) An algebra teacher had about half the class around her every evening after school asking for help on the problems. They were not satisfied with a few suggestions, but pretended to be ignorant of how to proceed; so the teacher would finally work the problems, explaining each step. Meanwhile students would be copying the work, and giving little heed to the explanation. The next day these students would have the problems worked out, but often could not explain them.

(3) An enthusiastic high-school principal fresh from graduate courses in education introduced supervised study. His teachers welcomed it heartily as a relief from teaching, and the schools soon became the "joke" of that region.

(4) An experienced high-school principal says, "In many cases teachers use the supervised study periods for correcting papers, reading the daily paper, or visiting each other."

20. *Home study.* — In the light of Parker's chapter and all the preceding discussion, describe, with reasons, the amount and kind of home study which you believe in.

21. *Suggestive example.* — What suggestions for technique in supervising study, particularly for utilizing objective evidence, do you derive from the following description, by I. M. Allen, of the experiences of a boy in a class in English composition.

A CONCRETE ILLUSTRATION FROM THE LABORATORY-RECITATION PLAN IN ENGLISH COMPOSITION

Perhaps the best way to illustrate the application of the foregoing plan would be actually to take a pupil and carry him through both laboratory and recitation. This I have undertaken to do with

a certain pupil, Robert, who prepares his oral-theme outline in laboratory, recites upon the same in his recitation group, reduces the same to writing in laboratory, receiving his criticism thereon and, finally, re-checks his written theme from these corrections. Ordinarily such a process would extend over a period of two days. Here Robert, for the purpose of this paper, continued his progress through laboratory and recitation during one afternoon, much to the loss of equilibrium for Robert, as he so declared in recitation.

A. Laboratory Assignment

Plan to tell orally to the class the most exciting adventure that has happened to anyone whom you personally know.

First Outline Submitted by Robert

WEALTHY FARMER HAS NEAR ESCAPE FROM DEATH

The lead: James Branden, a wealthy farmer living near Springfield, was saved from death yesterday when he leaped to an incoming passenger train.

Situation: Mr. Branden had gone to town on business and then returned home.

Climax: His car stopped on train tracks and the engine refused to work. Passenger train neared the automobile of Branden.

Dénouement: He saved his life by springing from his car to the engine of the passenger train.

Laboratory Teacher's Criticisms of Outline

T. *What did you intend this first line for?*
P. The first line is supposed to be the headline.
T. *Do you see any mistake in grammar?*
P. Yes — near.
T. *What part of speech is near?*
P. Verb.
T. *Is it used there as a verb? How is it used?*
P. It should be an adverb.
T. *What does it modify?*
P. In this sentence, escape.

T. *What part of speech is escape?*

P. Noun.

T. *What do you call a word that modifies a noun?*

P. An adjective.

T. *Near is what, according to the dictionary?*

P. Near means close.

T. *What part of speech is near? May it be used as an adjective?*

P. It probably could.

T. *Where would you look to find out? Look that up.*

Pupil consulted dictionary and found near used both as an adjective and an adverb.

T. *What word could you substitute for near?*

P. Narrow.

T. *Is there a difference between the two?*

P. Yes. Near does not explain so much as the word narrow.

T. *Your lead is good. Under your situation, this should be, "He started and was returning to his residence." Why?*

P. Because he had not reached his home when this happened. I could say, "Mr. Branden had gone to town on business and started to return to his residence."

[The remaining portions of an extended conference are omitted. — EDITORS.]

Outline for Second Thriller (Prepared in Laboratory by Robert)

WEALTHY FARMER HAS NARROW ESCAPE FROM DEATH

The lead: James Branden, a wealthy farmer living near Springfield, was saved from death yesterday when he leaped from his automobile to the engine of an oncoming passenger train.

Situation: Mr. Branden had gone to town in his automobile on business and then started to return to his residence.

Climax: His car stopped on the railroad tracks and the engine refused to work. The passenger train neared the automobile of Branden.

Dénouement: He saved his life by springing from his car to the engine of the passenger train.

B. Recitation

(Robert gives oral theme in recitation group)

A SECOND THRILLER

James Branden, a wealthy farmer living near Springfield, yesterday had a narrow escape from being killed. He was coming to town in his car. In the center of the railroad tracks it stopped. Mr. Branden tried to get the engine to work by means of the self-starter. He could not move it. He saw a passenger train approaching, but waited two or three minutes and grabbed a hold on the engine. Thus he was saved from being killed. In five minutes the train stopped and he regained his conscience. Now he was taken from his situation unhurt.

Class Criticisms

He was familiar with his outline.

He followed his outline well.

It was good.

It held us in suspense.

T. *Another criticism to show its good points?*

He had a good lead.

T. *Did he accomplish his purpose?*

The thrill was all right, but was illogical. He saw a passenger train and waited two or three minutes and jumped on the car and in five minutes the passenger train stopped. Rather slow for a passenger train.

T. *What about the situation? Was that clear? What about the dénouement?*

P. Those were clear.

He said, "regaining his conscience" (sense or consciousness).

He said, "git and grabbed a hold."

He said, "he was taken from his situation unhurt."

He said, "living near Springfield yesterday."

Change of verb tenses. Started with past and then said "he now. . . ." Incorrect pronoun: "When he got to the railroad track it stopped."

Robert: I had to go so slow for the stenographer to get it that I did not give it the way I wanted to.

A. Robert's Next Laboratory Exercise — Reduces Oral Theme to Writing

WEALTHY FARMER HAS NARROW ESCAPE FROM DEATH

James Branden, a wealthy farmer living near Springfield, was saved from death, yesterday, when he leaped from his automobile to the engine of an oncoming passenger.

Mr. Branden had left his farm, in the early part, in his automobile for town to attend to some business and had now started to return home by the way of Cook Street, a street which leads to his farm.

When his car reached the center of the railroad track on Third Street it stop. He tried to get the engine to work by pushing the self-starter with his foot, but it would not work. He then started to get out of his car to examine the engine, but so frightened, by the sight of an oncoming passenger train that he could not move hand or foot.

Finally he regained his senses and saw that the only way for him to save his life was to jump. Just as the engine of the passenger train was about to strike his car he sprang from his seat to a rod that was on the side of the engine and held there till the engine came to a stop.

The enginere of the passenger train brought the engine to a stop and removed Branden from his place.

It was found that Branden received no injuries.

Laboratory Corrections by Robert

1. A comma is needed here. Rule. Every appositive should be set off by a comma.
2. Word omitted, train. This is necessary to make sense.
3. Words omitted, "of the day." These are necessary to the sense.
4. Mistake in grammar. I should use the past tense, stopped.
5. Word omitted, was. It is needed to finish the verb.
6. A new paragraph should not begin here, for this is not a new thought. It belongs with the sentence that precedes it.
7. Mistake in spelling. It should be engineer.

Additional Bibliography

1. Allen, I. M. Experiments in Supervised Study. *School Review*, June, 1917, Vol. XXV, pp. 398–411. The best suggestions of actual technique of supervising study. Quoted in part above.

2. Hall-Quest, A. L. *Supervised Study.* (The Macmillan Company, 1916.) A very useful summary of all phases of the problem up to date of publication. Contains much source material.

3. Logasa, Hannah. Some Phases of Library-Study-Room Management. *School Review*, May, 1916, Vol. XXIV, pp. 352–358. By an expert librarian and supervisor of study.

4. Merriman, E. D. Technique of Supervised Study. *School Review*, January, 1918, Vol. XXVI, pp. 35–38. Suggestions concerning making supervision of study effective.

5. McGregor, A. L. *Supervised Study in English.* (The Macmillan Company, 1921.) Gives details of actual assignments for laboratory exercises in English; arranged as minimum, average, and maximum assignments on each topic. Very helpful.

EXERCISES ON CHAPTER XVII

THE USE OF BOOKS

Very important. — The topic of this chapter is especially important in view of the large part played by books in teaching. The discussion falls under four heads.

I. *Social importance* of the use of reading matter.
II. Profitable use of *textbooks.*
III. *Economical* use of prescribed *supplementary* reading.
IV. Library *investigations* and reports.

I. Social Importance of Reading

1. *Reading in business.* — Is the following illustration *typical* of the part played by reading by executives in business life? Explain.

"A certain very successful sales manager (a director of a hundred traveling salesmen) is an habitual reader of books on scientific business management and such business magazines as *System* From these he gets many of the ideas which he uses in improving his organization and business."

2. *Memorizing in professions.* — Is the following example *typical* of the part played by memorizing material from books in professional activities? Explain.

"I am a lawyer thirty years of age and probably of average memory, but I find that when the trial of a case which I have once prepared on is delayed for a few weeks or months I forget many of the details of both the facts and the law, and have to review the case quite fully again. I also have considerable difficulty in remembering on legal propositions whether the holding is one way, or just the other way, though the proposition itself I can remember well enough."

3. *Memorizing ideas.* — What distinctions are suggested by the term "memorizing of ideas" which occurs at the top of page 421?

II. Textbooks

4. *Cheyney's preface.* — What sentence on page 422 is paralleled by the quotation from the preface of Cheyney's "Short History of England" given above on page E167.

5. *Tunneled texts in education.* — (*a*) What sentence on page 422 of Parker's text does the book review given below illustrate?

(*b*) Name *a* textbook on education or *the* textbook to which the review applies.

"REVIEW OF BLANKEY'S[1] TEXTBOOK ON EDUCATION

"By Miss Evelyn Dudley

"An unworthy spirit of revenge for recent mental upheavals has inspired the following Sonnet: On First Looking Into Blankey's Text-book — written with abject apologies to Keats:

"Oft have I sped through tunneled mountain height,
Whose shadows first allure, then grow more deep,
As rocky cavern walls, high-arched and steep,
Shut out the living gleams of gracious light;
And then am I involved in blackest night,
With horrid noises, heard in fevered sleep;
Fantastic figures seem to leer and leap,
Till sunshine breaks again upon my sight.
Thus Blankey reads — enticing at the start,
With promises of interest, and gain,
And understanding of the teacher's art —
Alas that such fair promise should be vain!
Yet ere I close the book, with heavy heart,
I glimpse again a meaning, clear and plain."

[1] In order to disguise the author, the name "Blankey" is used here.

6. *Use of prescribed texts.* — As a rule, beginning teachers have to use textbooks prescribed by some other authority. For a teacher in such a position what are the two most important statements concerning textbooks which you can find in this chapter?

7. *Coöperation with author.* — (*a*) What does the heading of this exercise suggest to you?

(*b*) What paragraphs in Parker's chapter does it summarize?

8. *Interest in recitations.* — (*a*) Why is the type of recitation described in the third sentence on page 425 more likely to be interesting than a recitation of memorized textbook material?

(*b*) To what instincts does the former appeal? (See list on page E177, above.)

9. *Exercises on meanings.* — (*a*) What is the value of such exercises as the following in providing training in the use of books: exercise 5 on page E18, referring to the force of the word "directly" as used in a sentence, and exercise 15 on page E88, referring to the force of the phrase "other things being equal" as used in a given sentence?

(*b*) In what subjects in high schools is this type of training most emphasized?

(*c*) Could it be provided as effectively in other subjects? Explain.

10. *Class study; sample lesson.* — What *specific* training in the use of books is provided in the history lesson on Minos which is quoted above, on pages E159–E161?

11. *Evaluate a sample recitation: socialism.* — (*a*) Point out two good features of the following lesson from the standpoint of Parker's discussion of recitations based on assigned readings in textbooks.

(*b*) Can you discover any weaknesses in the lesson? Explain.

LESSON ON SOCIALISM

Topic. — Socialism.

Class. — Mixture of high-school juniors and seniors.

Course. — Modern history *not* a course in civics.

Assigned textbook reading. — Historical accounts of socialism and related movements in Europe.

Subtopics.

1. Definition of socialism.
2. Comparison with communism, anarchy, and syndicalism.
3. State socialism.
4. Why socialism has not made more progress in the United States.
5. Weakness of socialism.

Only a *few* of the teacher's questions with *abbreviated* suggestions of the pupils' answers are given.

The discussion of each main question was continued until the pupils' ideas were made more nearly correct. In later lessons, after more reading, their ideas were further refined. Much of the discussion is omitted here.

I. Recitation on Definitions learned in Assigned Reading

(1) Teacher. *How are you going to define socialism?*

Pupil. Socialism is that state or condition where the government controls all products and agencies and distribution of such.

(2) T. *Would it be a socialistic state if Germany would distribute according to the needs of the people?*

P. No. It would be a communistic form. Socialistic is a popular government and an equal division. Communistic property belongs to everybody — equal ownership — everything in common. Socialistic is an equal division.

(3) T. *What is the difference between socialism and communism?*

P. Socialism is a *proportional* division, communism *equal* division.[1]

[1] The discussion of *socialism* versus *communism* was continued until the pupils' ideas were corrected.

(4) T. *What is the difference between socialism and anarchy?*

P. Socialism is more peaceful — anarchy is not peaceful. Anarchy implies no government, no ruler. Socialism believes in government.

(5) T. *What are the syndicalists?*

P. Those that believe in stopping work — breaking down machinery — to destroy property to make capital and labor equal.

(6) T. *Does it make capital and labor equal to destroy capital?*

P. To have industry you must have capital — destroying only makes new capital.[1]

(7) T. *What is state socialism?*

P. That the state should own all property — be leader in all action. State putting in operation socialistic ideas.

(8) T. *To what distance has state socialism gone?*

P. Protection of labor — old-age pensions — health resorts — accident insurance — care of unemployed.

II. First Problem for Critical Class Study; not Answered in the Assigned Reading

(9) T. *Why has not socialism gained a greater headway in the United States?*

P. No class distinction — more competition for labor — labor unions look after their members — capitalists contribute to the welfare and interests of their employees.

(10) T. *Is there anything in the American form of government that discourages socialism?*

P. Democratic government does not demand it. Class distinctions are lacking.[2]

(11) T. *What government in the United States would be called upon to put into effect a socialistic program?*

P. State government.

(12) T. *What effect would it produce if the state of Wisconsin adopted old-age pension law? one third by state, one third by labor, one third by the manufactories?*

P. Manufactories would move to other states to escape taxation.

[1] Discussion of syndicalism continued until clearer ideas prevailed among pupils.

[2] Further critical discussion.

(13) T. *What effect does this possibility have on legislators?*

P. Legislators will refuse to pass laws that take manufactories out of the state.

(14) T. *Why does n't the national government put it into effect?*

P. Not all want it.

III. Second Problem for Critical Class Study; not Answered in Assigned Reading

(15) T. *Is there anything wrong with the theory of socialism; namely, the state has control and distributes according to what is contributed?*

P. There would appear the problem of worth. Favoritism. The question of fixing a man's worth. The question of numbers involved, and other things to attend to.

(16) T. *Who shall set the value of the individual?*

P. The state.

(17) T. *Who is the state? Who is to determine?* (*In order to be fair to industries. Impartial.*)

P. Number of leaders necessary. Then there might be unfairness.

(18) T. *What would you do with the person that refuses to contribute to industry? When the state turns him off, what is he to do?*[1]

III. Supplementary Reading

12. *Laboratory method in history.* — (*a*) What paragraph in Parker's chapter is illustrated by the scheme described below?

(*b*) How much of the scheme is *practicable* in a small high school?

(*c*) What steps would you take to *make a beginning* with it?

" The history laboratory is well equipped with large tables, maps, charts, reference books, dictionaries of geography and biography, encyclopædias, bulletin boards, cabinets with relics, etc. Outsiders are interested in lending materials."

[1] For the next lessons further readings were assigned to aid in clearing up questions which had arisen during the discussion.

13. *Syllabus methods.* — Some skilled high-school teachers artfully combine textbook and supplementary reading methods by issuing a mimeographed syllabus which parallels the text. This contains the daily text assignments plus exact page references to a considerable number of parallel readings on each topic.

(*a*) If you used this method, would you regard the parallel reading primarily as *supplementary assignments for the bright* pupils or as *book training for all*? Explain.

(*b*) How would your methods of assignment and recitation vary, depending on which point of view in (*a*) you took?

(*c*) How would the parallel readings be worked into the recitations in the most helpful ways?

IV. Investigations and Special Reports

14. *Papers for women's clubs.* — (*a*) What sentence on page 431 suggests a description of the papers commonly presented in women's clubs?

(*b*) Is the preparation of such club papers sufficiently important in social life to justify training girls for it in high schools? Explain.

(*c*) What bearing does the term "continuation education" have on this exercise?

15. *Are oral reports desirable?* — After reading the following quoted opinions, what is your conclusion concerning the desirability of organizing in high school a system of oral reports by pupils, based upon investigations as described on pages 428–435? Include in your conclusion *several inferences, preferably one from each of the opinions quoted,* but rearranged and organized as a unified conclusion.

(1) A *noted teacher of graduate students* of education says, "Oral reports are an unmitigated bore for all concerned — the student reporting, the class and the teacher. They serve no useful purpose and the time should be used to better advantage."

(2) A *graduate student* says, " I received more benefit, professor, from the seventy-five hours which I spent in preparing my report for your class than I did from all of the lectures and required readings in all my courses this term, including your own."

(3) A *college teacher* says, " In the high school which I attended, we had to make three-minute reports on readings regularly, and in our graduating year had to deliver three eight-minute talks in the school assembly. When I left high school, I made short talks as a matter of course. In college, I had no training in speaking, however; I lost entirely the habits which I developed in high school."

(4) A *college student* says, " My public speaking course is the most interesting which I have ever taken, because I hear so many matters discussed upon which I am uninformed and have done little or no reading."

(5) A *college senior* writes, " In high school I took three subjects, history, civics, and commercial geography, in which the particular stunt of having students give reports was tried out. Except in cases where the subject was *exceedingly* interesting, for example, just how each of the assassinated presidents met death, the members of the class lent a deaf ear to the report. After the report was read, the questions about it, in most cases, were received in cold silence."

16. *Directions for oral reports.*— (*a*) State the probable *reason* for *each* of the items in the following directions for making oral reports in Parker's graduate classes.

(*b*) Write between the lines such modifications of the directions as would be necessary to adapt them to some scheme for oral reports which you would plan for high-school students.

DIRECTIONS TO STUDENTS FOR MAKING ORAL REPORTS

" (1) You will have from twenty-five to fifty minutes to use as effectively and profitably as possible. The time is yours; try to make the best of it for the benefit of the class.

" (2) Stop gathering material at least one week (seven days) before your report is due in order to have time to get it organized and ready for presentation.

"(3) Rehearse your report at home at least twice in order to time yourself and to familiarize yourself with its organization and content.

"(4) If you have too much material, do not plan to talk rapidly to get it all in. Cut it down to the main points and plan to make these perfectly clear.

"(5) Avoid long introductions.

"(6) Avoid giving too much detail on the earlier items in your report.

"(7) Assume that students are familiar with the textbook and avoid repeating material contained in it except as an explanatory review."

17. *Distinguish book training and expression.* — (*a*) In the scheme for reports based on investigations described on page 428, mark with *B* the parts which provide training in the *use of books* and with *Ex* the parts that involve *training in expression.*

(*b*) Is one (*B* or *Ex*) possible without the other? Explain.

(*c*) Which is easier to administer?

(*d*) Would the use or omission of one or the other depend on the teacher? Explain.

18. *Conferences for reports.* — What light does the teacher's conference with Robert, described above, on page E211, throw on the problems suggested in the next to last paragraph on page 428?

19. *Individual differences.* — (*a*) How effectively does the scheme for reports on special topics based on investigations provide for individual differences? Explain.

(*b*) Show the relation of the scheme to exercise 8 on page E196.

20. *Indexes.* — (*a*) What is Poole's Index and how is it used?

(*b*) What other indexes are there which serve the same purpose as Poole's?

(*c*) How do they differ?

(*d*) Would these indexes be useful in the high schools with which you are familiar? Why?

21. *Use of periodicals.* — (*a*) Which is easier to organize, training in the use of *bound volumes* of periodicals or in the use of *current* issues? Explain.

(*b*) What habits are formed in the use of each (*bound* or *current*) which are not formed in the use of the other?

(*c*) Examine copies of the *Literary Digest* and the *Popular Science Monthly* and name the high-school courses in which they might be used.

(*d*) Name one or two other periodicals which might furnish material for high-school courses, and name the courses.

22. *Making bibliographical notes.* — To illustrate bibliographical descriptions mentioned on page 431, *write* a descriptive note of about thirty words characterizing Parker's chapter on the use of books. *Hand it in.*

23. *Summary resolution.* — Complete the following sentences by crossing out words and filling in blanks. Read the whole through first.

"I think the scheme of special reports described on pages 428–434 is so {impracticable / difficult / valuable} that in the teaching of _____ I shall {forbid / not allow / permit / encourage / require} {each pupil / the brighter pupils} to spend {0 / 10 / 20} hours each semester *preparing* {0 / 1 three-minute / 5 three-minute / 1 ten-minute} report(s); the {privilege / task} of actually *presenting* the report orally being {dependent / not dependent} upon my approval of a well-organized brief submitted {1 day / 2 days} before the report is due. Pupils who are exceedingly weak in native talent for oral expression will {be excused / not be excused} from

presenting their reports orally. The following are examples of topics for such reports: { 1. _____ ; 2. _____ ,,

24. *Library exercises.* — What *specific* library training is provided by *each* item in the following practice exercise issued by the librarian of The University of Chicago High School:

LIBRARY LESSON 2

PRACTICE WORK

Name of pupil
Name of English teacher

1. Name two books in the University High School Library by any one of the following authors. Use the card catalogue in finding these books.

Rudyard Kipling
Henry van Dyke

2. Find the following numbers on the shelves and give their author and title:

589.95
C75
821
T31
308
F83

3. Name one book on each of the following subjects:

Travel
Biography
Music
Chemistry
History

4. Suggest a subject for a three-minute talk in English. Designate whether you found the material on the subject in books, magazines, or in both.

LIBRARY LESSON 3

PRACTICE WORK

Name of pupil
Name of English teacher

1. Define the following words:

Ambiguous
Obsolete

2. In how many dictionaries can you find the word "dictograph"?

3. Suggest a subject for a debate. Where did you find material on the subject?

4. Find an article on one of the following subjects. Give name of the subject chosen and name of encyclopedia in which you found the subject.

University of Chicago
Renaissance
Child Labor
Life of Sir Walter Scott

5. Suggest a subject for a theme in English in connection with the courses you are taking in any of the following subjects:

Mathematics
General Science
German
French
Latin
Shop
Drawing
Library
Gymnasium

25. *Library-study-room management.* — Do you think the following rules for governing a library study-room in high school are too severe? Explain.

(1) Do *not admit late* pupils without an excuse from the office or the teacher who detained them.

(2) Do *not excuse* pupils from the room without giving them a *transfer.*

(3) Pupils are *not to speak* to each other without the permission of the teacher in charge.

(4) Pupils are to enter the library *quietly*, take their seats, and *go to work.*

(5) Insist upon *profitable use* of library time.

(6) *Reserve* books are not to be taken from the library until 3 P.M.

Additional Bibliography

1. Hopkins, Florence M. *Reference Guides that Should Be Known and How to Use Them.* (Willard Co., Detroit, 1916, 187 pp., $1.50.) A manual for the bibliographical instruction of the layman. "Includes chapters on all the necessary subjects from the make-up of a printed book to the methods of obtaining public documents. Exercises are given for each variety of source taken up. Some idea of the range of this manual may be gained from a sketch of the topics of the contents: parts of a book; concordances; atlases; dictionaries; encyclopedias; library classification; indexes to magazine articles; year-books, and so on. Heartily recommended to every high-school and college librarian concerned with the teaching of classes in library methods" (*School Review* book note).

2. *Magazine study.* The following periodicals issue directions to guide teachers in using the periodicals in their classes. Sometimes the directions appear in the current issue and sometimes they are sent separately. Write publishers for class rates.

Literary Digest	Current Events
Independent	Popular Science Monthly
Outlook	Country Gentleman
Review of Reviews	

3. Johnson, H. *The Teaching of History.* (The Macmillan Company, 1916.) Chapter XIII on collateral reading.

4. Tryon, R. M. *Teaching History in Junior and Senior High Schools.* (Ginn and Company, 1921.) See the Index under Textbooks etc.

EXERCISES ON CHAPTER XVIII

CONVERSATIONAL METHODS

An easy but practical chapter. — This is one of the easiest chapters in the book. From the standpoint of intellectual difficulty there is very little to it as compared with the other chapters. The practical issues raised, however, are of sufficient importance to justify spending an hour in discussing it. For this purpose a few easy practical exercises are provided and a special assignment to give some further training in lesson-planning.

Special assignment. *Outline a conversational lesson.*— Select some topic which might be taught by a conversational lesson in high school. Suggestions for topics may be secured from high-school lessons observed, textbooks, college courses dealing with high-school subjects, and from the lessons on "work" and "participles" on pages E102 and E104.

Write an original outline of a conversational lesson on the topic under the three headings given below:

(I) Pertinent *information* which the high-school *pupils* might be expected to possess.

(II) Principal points of *information* that the *teacher* would contribute.

(III) Exact wording of the five principal *questions* which the teacher would ask.

Length and form of paper.— The paper should not be more than *two theme pages* in length. Arrange it under headings (I), (II), and (III) described above, with about five items under each heading. *Number the items.* Hand it in on —— (date).

1. *In your own teaching.* — Are conversational methods likely to play a large part in your own teaching? Explain.

2. *Conversational versus textbook methods.* — (*a*) Judging by the quotation from Harris on page 438, which type of teaching requires *more self-confidence* on the part of the teacher, conversational methods or textbook methods?

(*b*) Do you agree with this inference? Why?

(*c*) Which calls for *greater skill*, good conversational teaching or good textbook teaching of the type described in the third sentence on page 425? Why?

3. *Information by teacher.* — (*a*) In the lesson on the British Isles quoted on pages 439–440, *underline* the statements in which the teacher gives the pupils *information directly*.

(*b*) How many items of information does he give?

4. *Encouraging voluntary discussions.* — How could a teacher stimulate and encourage pupils to ask questions suitable for discussion without getting the reputation of being an "easy teacher," as described at the bottom of page 445?

5. *Teacher in ignorance.* — When a discussion arises in which the teacher himself is ignorant of the truth, as described at the bottom of page 446, what should he do?

6. *Waste in Socratic lesson.* — From the standpoint of training in *correct grammatical usage*, why is the Socratic lesson quoted on pages 443–445 a particularly vicious waste of time?

7. *Art in participle lesson.* — From the standpoint of this chapter, why does the lesson on participles printed above, on pages E104–E114, rank as fine art in teaching? Give two or three reasons.

8. *Conversational assignment.* — Imagine yourself a teacher of this course on methods of teaching. Prepare *two or three questions* which you would ask in *introducing this chapter* by a conversational assignment as described at the bottom of page 447. *Write out and hand in.*

9. *Possibilities and dangers.* — In your own plans for teaching, which type of suggestions in this chapter would prove more useful to you, those which suggest *dangers to be avoided* or those which suggest *new possibilities to be realized*? Explain.

10. *Late textbooks.* — What suggestions do you derive from this chapter concerning the utilization of class periods when supplies of *textbooks are late in arriving*, as often happens in small towns?

CHAPTER Q

FINAL EXAMINATION ON SELECTED PARTS

Purpose and weight. *Based on coherent system and 150 pages.* — The culmination of reducing the course to a usable system and fixing in each student's mind the parts he should remember and apply is a final examination on carefully selected material. This material should consist of two parts: (1) the systematic outline of the course sketched on pages E156–E157, above, and (2) such pages of the text as contain ideas or practical suggestions which the student should actually use when teaching. The selection of these pages provides for the throwing overboard of those parts of the text which are largely argumentative or explanatory in character and which have served their purpose after they have developed certain general ideas or attitudes in the students.

Announce in time for distributed reviews. — The scope of the final examination should be announced a week or ten days before the end of the course, to give the students time for several reviews at intervals of a day or more.

Severity and weight. — The final examination on the selected parts should be sufficiently severe to stimulate the students to careful review, but in determining the average grade for the course it should not count more than two weekly tests.

Weekly tests to the end. — In order to stimulate serious study of all of the material up to the end of the book, the weekly tests should continue through the last week of recitations, or the last chapters should be included in complete form in the scope of the final examination.

Assignment for the final examination. — The final examination will be based on (1) the system of ideas represented in the outline on pages E156–E157 above and on (2) the pages of the text assigned below. Both of these should be studied so carefully that students will remember them definitely for at least six months and easily relearn them at any time in the future. Provisions for differences in interests are made in the *alternative* assignment near the end of the list below.

TOPICS AND PAGES FOR FINAL EXAMINATION

I. Science versus opinion. Quotation, pp. 502–505
II. Broadening purposes of high-school teaching. What teachers are for, p. 12; liberal education, pp. 13–15; formula of aims, pp. 16–23
III. Economy in classroom management, pp. 31–48
IV. Selection and arrangement of subject matter, Chapter IV. Review the headlines sufficiently to learn the four main ideas thoroughly; omit details
V. Learning processes
   A. Types of learning, pp. 96–97
      1. Acquiring motor skill. *Omit entirely*
      2. Associating symbols and meanings. *See alternative assignments, below*
         Drill; on real processes, pp. 158–160
      3. Reflective thinking
         (*a*) Dewey's description, pp. 183–184
         (*b*) Summary of guiding problem-solving; be able to explain and illustrate each point briefly, pp. 199–200
         (*c*) Summary of learning abstractions, p. 225 (p. 226 in some editions)
      4. Habits of harmless enjoyment. *See alternative assignments, below*
      5. Training in expression, pp. 280–290

B. General aspects of learning
1. Self-activity, p. 297 (top paragraph)
2. Apperception, pp. 303–312
3. Age influences. *Omit entirely*
4. Interests; instincts used, pp. 348–360
5. Differences in capacity, three factors in special seat work, pp. 385–387
6. Supervised study, technique of, pp. 402–416

VI. Sources of subject matter
1. Books; texts and supplementary reading, pp. 421–428 (top)
2. Conversational methods, legitimate uses, pp. 447–448
3. Laboratory methods. *See alternative assignments, below*

VII. Questioning and testing
Technique of questioning, pp. 467–474; routine testing, pp. 493–502

In the exercise book. — Study all of the chapter entitled "The Last Word," pp. E251–E257.

Alternative assignments. — In addition to the pages assigned above, choose *one* of the following assignments:
(*a*) Learning a foreign vocabulary, pp. 122–140
(*b*) Enjoyment of reading, pp. 242–244, 250–266
(*c*) Laboratory methods, pp. 449–463

Factors to be tested. — Some of the questions in the final examination may be so phrased as to test not only the student's *knowledge* of the facts and principles included in the above assignments but also his ability to *use* these as is done in the exercises. For the latter purpose the questions should *provide data* from real teaching situations, and set problems calling for judgment in applying *specific* principles studied in the review.

EXERCISES ON CHAPTER XIX

LABORATORY METHODS

Adapt discussion to interests and technical training. — Difficulty arises in teaching this chapter owing to the fact that often only a few of the students in the method course expect to teach science or are well prepared in science. From his knowledge of the registration in his class, the instructor should carefully determine just how much emphasis to give this chapter and which exercises to assign.

1. *History of laboratory work.* — (*a*) Judging from the quotation at the bottom of page 450, would you expect the technique of laboratory teaching to be *as well developed* as the technique of teaching Latin or algebra? Explain.

(*b*) Make a similar comparison between laboratory teaching and forming habits of enjoying literature.

(*c*) Make a similar comparison between laboratory teaching and the use of problem-solving methods in the social sciences.

2. *Aims of laboratory work.* — (*a*) Which statement of the aims or purposes of laboratory work do you prefer, the one given by Parker on pages 449–450 or the one quoted in paragraph 1 at the bottom of page 452? Why?

(*b*) What is the force of the word "some" in paragraph 4 on page 454? (Compare the last sentence in paragraph 7.)

3. *Qualitative versus quantitative physics.* — (*a*) Does the quotation on pages 455–456 seem to oppose all measurement work in elementary physics or only certain kinds? Explain.

(*b*) Review the quotation on page 71 and give two or three other examples of physical phenomena in which the study of the *qualitative* facts by experimentation could easily and profitably be emphasized. (For suggestions examine the topics on page 87.)

4. *Skill versus thought.* — (*a*) Which type of drawing is more helpful in studying botany and zoölogy: (1) pictorial, representative, photo-like drawing or (2) analytic-diagrammatic drawing? Explain.

(*b*) Which type of drawing requires greater artistic skill? Explain.

(*c*) Which requires greater scientific thinking? Explain.

(*d*) Is this exercise a fair illustration of the discussion on page 458? Explain.

5. *Laboratory aspect of work of scientists.* — How do the Kepler example (pp. 180–182) and the Newton example (pp. 196–197) help you to understand the paragraph concerning the following of recipes at the bottom of page 459?

6. *Practical man versus scientist.* — (*a*) In what different ways would the following persons tend to regard the educational value of laboratory work? Why?

(1) The so-called practical-minded schoolman who believes in industrial training.

(2) Professor Michelson, granted the Nobel prize for eminence in scientific research (quoted on page 71 of the text).

(*b*) Which one is more likely to be correct? Why?

(*c*) If you desire to know how easily even such a well-informed man as Francis Bacon may misunderstand scientific method, read pages 118–119 of S. C. Parker's "History of Modern Elementary Education."

7. *Students' interests and scientific method.* — Which view of laboratory work suggested in exercise 6 (*a*) would coincide best with the utilization of the interests of high-school pupils? (Review exercise 24, p. E48, and exercises 3 and 4, p. E178, above, on practical versus theoretical interests.)

8. *Discovery of scientific laws.*— Show the relation between the discussions indicated below. Make a memorandum after each item, showing its essential point, also a memorandum of the general relation which you discover between the items.

(1) Page 460, second paragraph, first sentence.
(2) Page 454, paragraph 7.
(3) Exercise 18, p. E89, above, entitled "Geometer's sagacity."

9. *Apperception; abstractions.*— State how the quotation beginning on page 460 illustrates the following:

(1) The principle of apperception. (Review pp. 300–312, headlines.)
(2) The principles of teaching abstract ideas (p. E97).

10. *Verification. This is a hard one. Try it.*— We have had the idea of *verification* before us for discussion in three connections:

First, in the quotation about *scientific method* on page 504, the opening sentence and also the second sentence from the bottom.

Second, in *problem-solving*, pages 196–198.

Third, in *laboratory methods*, page 454, paragraph 7 ("prove the law"), and page 461, last line.

(*a*) What differences in the use of the term (or in the ideas of verification) appear to you in these three discussions?

(*b*) Would any one of the types of verification described enter into the pupils' solution of the laboratory problems suggested at the top of page 462? Explain.

11. *Sample assignment.*— Wherein does the teacher's art consist in the following example?

The laboratory exercise for a physics class has this title: "When one cubic foot of the gas produced by your home company is burned, how much heat is produced by the combustion?"

Before taking up the exercise the teacher reads a clipping from a newspaper which begins as follows:

HEATING POWER OF CHICAGO'S GAS

"Consumers of gas in Chicago have been informed by Alderman Merriam that the Peoples Gas Light and Coke Company is preparing to 'wash out' some of the extra heating efficiency from the commercial product which it sends through its meters to cook the dinners of this big community and otherwise add to the comfort of the citizens. The local public should take an interest in this announcement for more reasons than one."

12. *Evaluate a laboratory lesson.* — Read *rapidly* the following laboratory lesson prepared by T. R. Wilkins of The University of Chicago High School. Point out *two good qualities* of the lesson, preferably in terms of Parker's chapter or the class discussion.

"A STUDY OF MUSICAL SCALES

"You have found in Experiment 41 that there is a definite relation between the length of a stretched string and the note produced. In stringed instruments like the violin, banjo, mandolin,

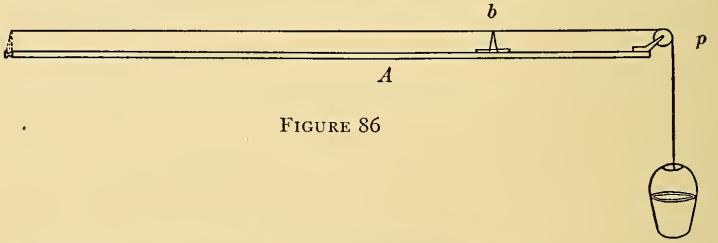


FIGURE 86

guitar, etc. the different notes of the scale are produced by pressing the finger at certain definite points on the string, thus permitting different lengths of the string to vibrate. *Just how much must the string be shortened to get the ordinary major scale?*

"PROCEDURE

"*A.* Place enough tension on the wire of apparatus (figure 86) to get a definite tone. Then by shifting the bridge, determine the lengths of the wire which give the tones of the ordinary scale, — *do, re, mi, fa, sol, la, si, do.*

"*B.* Change the tension of the wire slightly and determine another set of positions.

"*C.* Change the bridge to get a new *do* and find a new set of positions.

" Calculations. With the data in *A*, use the law which you found in Experiment 41 to calculate the relative frequencies of the notes of the scale.

" Record of Data

	do	re	mi	fa	sol	la	si	do
Length								
Relative lengths								
Relative frequencies								

" 1. From the relative frequencies of your three trials, how are the relative frequencies of the scale affected by change of pitch of *do* obtained?

" (*a*) by change of tension?

" (*b*) by change of length?

" 2. The notes *do*, *mi*, *sōl* when sounded together are called the major chord. Careful measurements give these notes the relative frequencies 4, 5, and 6. How do these compare with your results?

" 3. The whole scale which you have determined is called the major scale. It is made up of three major chords. Can you find them from your data?

" 4. With the help of question 2, make a table of vibration frequencies for an octave starting with C = 256.

" 5. Make a similar table for an octave starting with G.

" The Tempered Scale

" If all music were written in the scale of C, the major scale would suffice. If G is taken as *do*, as in 5, it will be found that six of the above notes in each octave can be used in this new key, but that two additional ones are required, and to build up scales

in all keys would necessitate about fifty notes in each octave. To avoid this difficulty, Bach (1685–1750) invented the 'tempered scale' in which the octave is divided into twelve equal intervals. (The interval between two notes is defined as the ratio of their vibration numbers.) Thus on the piano the 'interval' between each two of the twelve notes placed in the octave is not far from $\frac{16}{15}$. It is exactly the twelfth root of 2.

"6. Five black keys are placed with eight white keys to give the required intervals. What was the ratio: between B and C, and E and F on the major scale? Why then was it not necessary to place black keys between these?

"7. By consulting the text, find the values for C in the 3 pitches Scientific, International, and Concert.

"The sections of the text dealing with this work are pp. 331–333. These are to be read by next class day."

Additional Bibliography

Popular science. — The *Popular Science Monthly* issues suggestions for science lessons based on articles in the magazine. These link up laboratory work with everyday affairs very effectively. Address the publishers of the magazine, asking to be placed on their mailing list for lessons.

EXERCISES ON CHAPTER XX

THE ART OF QUESTIONING

Another easy chapter. — Like the chapter on conversational methods, there are few intellectual difficulties in this chapter. There are five or six simple points which the following exercises may emphasize.

1. *Related discussions.* — How does the discussion on pages 467–468 make application of each of the following?

(*a*) Part of Chapter IV, on subject matter?

(*b*) The principles of apperception discussed on pages 300–312?

(*c*) Chapter XV, on differences in capacity?

(*d*) Chapter XI, on expression?

2. *Marking answers in recitations.* — (*a*) Would the practice of entering a grade for each pupil when he has finished reciting be considered *helpful* or *pernicious* in view of the discussion on pages 466–467? Explain.

(*b*) Evaluate the practice described in (*a*) in view of the black-type headline on page 468.

3. *Order in drill questions.* — Would the paragraph beginning line 9, page 469, apply to rapid-drill questioning? Explain. (Compare the technique described in exercise 11, pp. E77–E78, for the use of drill cards.)

4. *Pursuing and assisting individuals.* — Would the paragraph at the middle of page 470 lose *all* its force if there were no periods of supervised study? Explain.

5. *Pace in participle lesson.* — (*a*) Is the lesson on participles reported on pages E104–E114 primarily one in reflective thinking or drill? Explain.

(*b*) How many minutes did it last?

(*c*) How many questions did the teacher ask?

(*d*) Do you conclude that the pace was correct or not? Explain.

6. *Violations in sample lesson.* — What specific cautions in this chapter concerning good questioning are violated in the following:

(*a*) In the lesson on "The Lady of the Lake," quoted above, on pages E163–E164?

(*b*) In the lesson on Minos, pages E159–E161?

EXERCISES ON CHAPTER XXI

PRACTICE TEACHING AND LESSON-PLANNING

For guidance in practice teaching. — Most of this chapter is intended for practical guidance in actually organizing practice teaching, rather than for class discussions. Moreover, the part which deals with lesson plans has been utilized in connection with earlier assignments. (See above, pp. E115, E130.) Consequently only a few exercises are provided for discussion.

In answering the exercises each *student* should think of himself as *the practice teacher.*

1. *Knowledge of subject matter.* — (*a*) If you had to begin to teach *six* high-school *classes different material* (for example, algebra, geometry, trigonometry, beginning Latin, Cæsar, and English composition) to-morrow, how far ahead of them in the textbooks would you be able to keep in your preparation?

(*b*) Would it be possible to carry out many of the ideals of teaching presented in Parker's book? Explain.

(*c*) If you had to undertake *superior practice teaching* of the recitation type described on pages 424–425, *with one class*, how many hours would it take you to prepare yourself in the subject matter for each day?

(*d*) Would the type of preparation and training secured in (*c*) be of any benefit in the situation described in (*a*)? Why?

2. *Practice in routine phases.* — (*a*) What are some of the easy routine phases of classroom procedure to which a practice teacher might be early and easily introduced?

(*b*) What would be the psychological advantage to the practice teacher in such an introduction?

3. *Which judgment aspects?* — In initiating a practice teacher, after having provided for adequate knowledge of subject matter and training in certain routine matters, what would be one of the first *judgment* factors to be emphasized in his teaching? (See pp. 27 and 476 of the text for meaning of *judgment* factors.)

4. *Ten minutes of teaching.* — (*a*) Would it be feasible in your subject to permit a practice teacher to teach only ten or fifteen minutes in a period? Explain.

(*b*) What would be the advantages of initiating a practice teacher by this method?

5. *Planning lessons; Herbartian steps.* — (*a*) In the lesson on participles (pp. E104–E114, above) indicate approximately where each of the Herbartian formal steps seems to begin.

(*b*) Do the steps seem to serve a useful purpose in this lesson? Explain.

(*c*) To what extent do the steps appear in the "work" lesson on pages E102–103, above?

(*d*) Do any of the steps appear in the "Marmion" lesson on pages E131–136, above?

(*e*) Which step is emphasized in exercise 22, on pages E172–E173, above, about the goldfinch?

(*f*) Give a summary conclusion concerning the use of the Herbartian formal steps in organizing lessons.

6. *Plans; separation of subject matter and method.* — Is the separation of subject matter and method in planning lessons (see p. 482) desirable —

(*a*) For a conscientious, experienced, skilled teacher? Why?

(*b*) For an inexperienced lazy teacher? Why?

(*c*) For yourself as a teacher? Why?

7. *Reports on teachers.* — Would the report outlined on page 490 be of any practical value to you as a regular beginning high-school teacher? Explain.

EXERCISES ON CHAPTER XXII

MEASURING THE RESULTS OF TEACHING

Large practical value. — The topic of this chapter is of large practical importance to all teachers. The discussion falls under three main headings; namely:

I. Value of tests and examinations.
II. Technique of giving routine tests or quizzes.
III. Scientific measurement of results.

I. Value of Tests and Examinations

1. *Tests improve recitations.* — How may frequent written tests improve recitations? (Several answers may be inferred from pages 493–494.)

2. *Tests as stimulus.* — Do you consider written tests a vicious, unnatural form of stimulus, unlike the stimuli of social life? Explain.

3. *Tests as training.* — Explain the following statement: Written tests in some subjects provide one of the best forms of training for business correspondence.

4. *Written tests; varied testimony.* — (*a*) *Which testimony* concerning the value of frequent written tests would you accept as *most valid*, that of college students and alumni reported in the investigation summarized at the bottom of page 495 or the opinions of teachers who oppose the practice? Explain.

(*b*) Would your conclusions from (*a*) apply with equal weight to high-school teaching? Explain.

5. *Memory tests as diagnosis of ability.* — (*a*) Does careful observation of your fellow students bear out this statement:

" Students who rank high in their ability to *understand* lessons in history and science, and to do *independent study* in these lines, also rank high in *memory* tests on material which they study carefully."

(*b*) Would you conclude that tests of what is *remembered* by students from their preparation would be sufficient for purposes of stimulus and diagnosis? Explain.

II. Technique of Routine Tests and Quizzes

6. *Surprise tests.* — (*a*) Which one of the following ideas, (1) or (2), carries greatest weight with you? Explain.

(1) Owing to the *nervous strain* entailed, surprise tests should be avoided, and tests should be given regularly on certain days; for example, every Monday.

(2) In order to stimulate students to prepare their lessons *every day*, the practice of giving a test *any day* should prevail.

(*b*) Is your answer influenced by your own temperament? Explain.

(*c*) What bearing does the chapter on supervised study have on your answer? (See p. 416, middle paragraph.)

7. *Too long for the brightest.* — Which of the following factors carries greatest weight with you in determining the amount of time given to students to finish a test? Explain.[1]

(1) The desirability of securing a *rigorous, comparative, scientific measure* of the relative abilities of pupils, as suggested on pages 496–497 of the text.

(2) The desirability of establishing a more *complacent* mental condition during tests, as suggested on page E23 of the exercise book.

8. *Final examinations; nature and weight.* — (*a*) Summarize the suggestions for tests and final examinations recommended in the exercise book by Parker for this course. (See above, pp. E23, E198, E199, E232.)

[1] The author had nervous exhaustion in the interval between the publication of pages 496–497 and page E23.

(*b*) Evaluate his scheme.

(*c*) Would you apply it in your own teaching in high school? Why?

(*d*) In the light of this scheme, what objection is there to excusing *any* pupils from final examinations?

9. *Grading questions separately.* — Show how the grading of each question separately in discussion papers (as recommended on pages 500–501) contributes to *mental* economy for the teacher as well as *more rigorous grading*.

10. *Evaluate questions on Parker's chapter.* — Discuss the advisability of using *each* of the following questions in a written test on Parker's chapter on Measuring Results. (Consider (*a*) fairness, (*b*) whether too minute or too general, (*c*) encouraging cramming of mere words instead of ideas, (*d*) possibility of bluffing, (*e*) requiring use of judgment by pupil, (*f*) testing pupils' ability to apply the ideas, and other features.)

SAMPLE QUESTIONS FOR EXERCISE 10

(1) Discuss methods of grading papers.

(2) Describe the method of grading papers by relative position.

(3) Show how written tests improve recitations.

(4) What does Parker say concerning difficulties in measuring habits of enjoyment?

(5) What are the characteristics of scientific judgments or methods according to Thorndike?

(6) Complete the following sentence: "The progress in a science of education is shown by the following facts concerning the meetings of school superintendents in 1912 and fifteen years earlier."

11. *Evaluate questions on composition.* — (*a*) What phases of the student's study and progress (as given by Parker on page 498) are tested by *each* of the following questions on English composition?

(*b*) Evaluate each question in the light of Parker's discussion.

SAMPLE QUESTIONS FOR EXERCISE 11

(1) Define unity, coherence, and emphasis.

(2) Explain how you would give a paragraph proper emphasis.

(3) Complete the following sentence: "There are three distinct devices used by good writers to weld together their sentences, after they have been properly arranged. These are ——"

(4) (*a*) Write a paragraph on the following topics:

"The referee's decisions in yesterday's game were impartial, though at times erroneous."

"The appearance of the —— automobile has been greatly improved in the latest model."

(*b*) Which of the following plans of ordering your material did you use: time order, space order, climax?

(*c*) Point out any of the following devices you may have used to give your paragraph coherence, naming and classifying each device: repetition of word or phrase, conjunction, relative pronoun or adjective, demonstrative.

12. *Evaluate questions on literature.*— In the following list of questions label with *M* the *four* that would have *most* value in testing a class in literature and with *L* the *two* which would have *least* value. Explain your choice in the light of Parker's chapter.

SAMPLE QUESTIONS FOR EXERCISE 12

(1) Give the main outline of the plot of "Ivanhoe," and briefly describe the important characters.

(2) What can you say of the style of Milton's "Comus"?

(3) Of all the dramas, stories, and poems studied this term, which do you like best, and why?

(4) Make a drawing, no matter how crude, of the picture Tennyson's "Break, Break, Break" presents to your imagination.

(5) If we were to dramatize "The Lady of the Lake," what part would you prefer to play, and why?

(6) Suppose you are a magazine editor. Someone has sent you the manuscript of "Silas Marner." You decide to publish this story serially in your paper. Mention several points at which you would have your installments end.

(7) Define and explain the following terms: target; claymore; ducats; Rialto; "upon the hip"; "speak me fair to death."

(8) Suppose we are going to put on the play "Macbeth." We must design a costume for Lady Macbeth which not only fits into the period historically but which at the same time will suggest or typify the character of the woman. What shall we have her wear?

(9) Write a character sketch of King Duncan.

(10) You have been asked to commit five lines of verse to memory. Give the lines and tell why you chose those particular ones.

13. *Final examination questions in this course.* — Do you approve of the scheme described below for the final examination questions in this course? Explain.

For a rigorous examination one instructor divides the questions into three sets and allows the students a limited time on each set. (1) The first set asks for detailed information from the text; for example, "Describe the spirit of discipline in the Jesuit schools." (2) The second set asks for fundamental principles of teaching; for example, "Describe and explain the fundamental principles to be observed in teaching new abstract ideas." (3) The third set provides practical problems with data as in exercises 11 and 12 above.

III. Scientific Measurement of Results

14. *Thorndike and Ayers.* — What points are there in common between the quotations from Thorndike on pages 502–503 and Ayers on pages 504–505? Underline the statements that contain common ideas and label Ex. 14.

15. *Science and opinion in Parker's text.* — (*a*) Indicate roughly the topics and total number of pages in Parker's text which would be classed as *scientific* according to the definition on page 504.

(*b*) What per cent of the book remains *as opinion*?

(*c*) What portions of the *scientific* part are *both conclusive and practical*? Indicate pages and topics.

(*d*) What portions of the *scientific* part are *merely suggestive*, but not conclusive or practical?

16. *Summary; an educational creed.* — Read Parker's educational creed described at the bottom of page viii of the preface and outlined below, then answer the following:

(*a*) Can any one of the main ideas be dispensed with in a well-balanced system of education? Explain.

(*b*) Can you add any fundamental idea concerning teaching which is not provided for under one of these headings?

(*c*) Why are the authors and references given below?

Fundamental Educational Ideas	Emphasized by
1. All instruction should be radically adapted to contemporary social needs, scientifically ascertained.	Bobbitt [1] Dewey [2]
2. Methods of teaching should be based on sound principles of modern scientific psychology.	Dewey [3] Thorndike [4] Judd [5]
3. Principles of scientific business management should be applied to all teaching.	Bobbitt [6] Bagley [7]

References. — [1] Curriculum. [2] School and Society. [3] How We Think. [4] Educational Psychology. [5] Psychology of High-School Subjects. [6] "Supervision of City Schools," Twelfth Yearbook of the National Society for the Study of Education. [7] Classroom Management.

Additional Bibliography

Rugg, H. O., and Clark, J. R. Standardized Tests and the Improvement of Teaching in First-Year Algebra. *School Review*, February and March, 1917, Vol. XXV, pp. 113–132, 196–213. Final report of a long investigation to determine standards of efficiency in algebraical processes.

CHAPTER R

THE LAST WORD

Public Service and the Gospel of Recreation

Purpose. — The purpose of this chapter is to show teachers the way to greatest social service through specialization in teaching, maintenance of many-sided interests in life, and practice of the gospel of recreation.

Service. *Teachers are important public-service agents.* — The social service of a teacher is one of the most direct and far-reaching forms of public service. Service in public schools ranks in importance with the work of the statesman and the soldier. The large possibilities of teaching in determining the character of a people is strikingly illustrated in the Hohenzollern schools of Prussia. With single-minded purpose the able Prussian despots, Frederick the Great and his father and descendants, set out to make Prussia for the Hohenzollerns a powerful state. They established public schools everywhere, that they might have agencies to train the people to believe in their rulers and support them. They required the teaching of religion and national history so as to glorify the divinely inspired (?) Hohenzollern family. The great European war demonstrated their success in developing a unified people with thorough confidence in its despotic leaders and ready to follow them to any end.

There are similar possibilities of large influence through education in any state. In America the recognition of the importance of public education is attested by the enormous sums voted by public authorities for schools and teachers.

Hence, he who teaches *well* subjects that are clearly adapted to contemporary social needs may rest assured that his services are of large, direct, social value to the state.

Specialization. *Specialized expert service the most efficient and helpful.* — Developments in modern science and in business practice have demonstrated clearly that the most efficient service comes through *specialization*. Hence a teacher to be of greatest service should specialize upon a sufficiently narrow field to *become an expert* in it. To the extent that he falls short of expertness he fails to achieve the greatest service. To become an expert in the teaching of *any one high-school subject* necessitates years of study of its special problems and practice in solving them. In view of this fact it is not desirable or necessary to spend time or energy on other forms of social service. The efficient public-service teacher may easily *satisfy his social-service conscience* through his specialized teaching services.

Personal achievement grows from specialized service. — Such specialized efficiency contributes not only the greatest social service but also contributes to the greatest individual achievement. One of the most tangible forms of such achievement is published textbook material. The practical accomplishment of most great educational reforms has depended upon the publication of good textbooks. Such textbooks are being written more and more frequently by high-school teachers. Any expert teacher may easily prepare small amounts of material for publication, and eventually larger volumes. Expertness and publications easily secure public recognition and promotion to higher positions.

Expert teaching service necessitates broad acquaintance with life. — In order that the specialized teacher of any one subject may adapt his instruction to the varied needs of the heterogeneous group of boys and girls that now attend high schools, it is necessary that he have wide acquaintance with ordinary life so that he may find many

points of contact in his subject. The modern high school in all departments is closely related to daily life, and in each subject the same close relationship should prevail.

Become a spectator of life in many situations. — In order to achieve this broad acquaintance with life the teacher should be an observer of people in many different situations. There may be *direct* observations of life in cities, towns, and rural districts, in shops, stores, and offices, in the homes of business men, mechanics, and stenographers, of people at work and play in all walks of life except the vicious and immoral; or there may be *indirect* observations in stories, the movies, the spoken drama, and the accounts of affairs in newspapers and periodicals.

The term "spectator" is used to suggest that the teacher is *not a responsible agent or serious student* in these situations, but merely an interested observer. The responsibilities of merely teaching are sufficient for most persons. Additional responsibilities will probably detract from their efficiency as teachers and thus detract from their service to the public or the state.

Fitness. *Keep yourself fit for service.* — In order to give the greatest service the teacher should keep himself physically and mentally fit for service. An excellent lesson in this regard may be gained from the training and discipline of an army. Here, in modern training camps, a very definite physical and moral discipline is practiced which keeps each soldier thoroughly fit for the public service he is to perform. Ideally, a similar system of keeping teachers fit should be organized. Unfortunately the opposite practice usually prevails, and public-school authorities often make their teachers unfit through the many and heavy duties imposed upon them. This condition makes it especially important, however, that each individual understand his physical and recreational needs and learn to live so as to keep himself fit for the best service.

Physical fitness through diet, exercise, and sleep. — Every teacher should have learned from his studies in physiology and hygiene to understand the needs of his body for nourishment and recuperation. In simple terms, he may think of his food as providing materials for building up his body and the fuel for the energy which he uses in his work. He may think of *exercise* as securing thorough *increased circulation* of the blood and *increased respiration.* These carry the upbuilding substances and fuel to the various parts of the body where they are needed, and carry away the waste products of activity. He may think of sleep as a period during which the charges in his storage batteries of energy are renewed and during which the very happy and useful process of *forgetting* may go on — since complete forgetting of many of our experiences is one of the greatest aids to mental health. For excellent nontechnical advice concerning health, all teachers should read " How to Live," by I. Fisher and E. L. Fiske, published by Funk and Wagnalls under the auspices of a national organization for improving health.

Preserve proper emotional tone. — Since the emotional tone of the teacher has such a profound influence upon his pupils' responses, it becomes one of the largest factors in one's fitness for service. The *continuous physical regeneration and forgetting* described above contribute enormously to the maintenance of proper emotional tone and are sufficient for this purpose in the case of certain sturdy, phlegmatic teachers with *callous* consciences and meager emotions. Most teachers, however, have *tender* consciences and *need a definite recreational program* in order to assist in the process of forgetting their responsibilities.

Recreation. *Practice the gospel of recreation.* — The need for distraction from one's responsible interests was emphasized by William James, in 1899, in his " Talks to Teachers," in a famous chapter called The Gospel of Relaxation. In it he said :

"The need of feeling responsible all the livelong day has been preached long enough in our New England. Long enough exclusively, at any rate, — and long enough to the female sex. What our girl-students and woman-teachers most need nowadays is not the exacerbation, but rather the toning-down of their moral tensions. Even now I fear that some one of my fair hearers may be making an undying resolve to become strenuously relaxed, cost what it will, for the remainder of her life. It is needless to say that this is not the way to do it. The way to do it, paradoxical as it may seem, is genuinely not to care whether you are doing it or not. Then, possibly, by the grace of God, you may all at once find that you *are* doing it, and, having learned what the trick feels like, you may (again by the grace of God) be enabled to go on."

It is not necessary, however, to trust to the "grace of God" or the feeling of "don't care" in order to secure distraction from one's responsible interests. A much surer, safer, and effective practice is to develop positive recreational interests.

Develop many-sided recreational interests. — If a teacher works effectively eight hours a day at his public-service teaching and in preparation for it, he has done sufficient for his country, and several of the remaining hours should be spent in irresponsible, interesting, enjoyable activities which will replace in his mind his responsible lines of thought and allow these to subside until they are needed when teaching begins again. The varied spectator activities described above, especially pleasing stories and the drama, and the observation of interesting, attractive persons at play furnish some of the most effective and pleasing temporary memories and trains of images to occupy one's mind. "Contemplative play" (a term coined by Thorndike) contains a happy suggestion of the desirable frame of mind which results.

Play outdoor games for exercise and for complacent contemplation. — The best form of recreational interest, however, for many persons is some form of outdoor game or

sport, one which provides abundant fresh air with sufficient exercise to stimulate the circulation, produces a pleasing physical fatigue conducive to sleep, and leaves pleasing memories for "playing the game over again" in one's mind, with pleasant anticipations of the next game.

The general improvement in mental tone which results from outdoor games is attractively presented by James in the following quotation:

"Consider, for example, the effects of a well-toned *motor-apparatus*, nervous and muscular, on our general personal self-consciousness, *the sense of elasticity and efficiency that results*. They tell us that in Norway the life of the women has lately been entirely revolutionized by the new order of muscular feelings with which the use of the *ski*, or long snow-shoes, as a sport for both sexes, has made the women acquainted. Fifteen years ago the Norwegian women were even more than the women of other lands votaries of the old-fashioned ideal of femininity, 'the domestic angel,' the 'gentle and refining influence' sort of thing. Now these sedentary fireside tabby-cats of Norway have been trained, they say, by the snow-shoes into lithe and audacious creatures, for whom no night is too dark or height too giddy, and who are not only saying good-bye to the traditional feminine pallor and delicacy of constitution, but actually taking the lead in every educational and social reform. I cannot but think that the tennis [and golfing] and tramping and skating habits which are so rapidly extending among our dear sisters and daughters in this country are going also to lead to a sounder and heartier moral tone, which will send its tonic breath through all our American life."

Time. *Don't say you haven't time.* — Finally, do not say you lack the time for recreation, for many of the greatest of men have followed definite recreational programs to keep themselves fit for service. A most notable recent example is the way in which President Wilson spent part of his day during the war. In the morning, before office hours, he motored with his wife to the links and played golf for about

two hours. In the evening he commonly spent the hours in pleasant pastimes with family or friends, in reading fascinating fiction, particularly detective stories, or in attending the theater. Is your time so much more valuable than that of President Wilson that you cannot afford a few hours a day to keep yourself fit for years of efficient service?

Warning. — *Remember now thy health, in the days of thy youth, lest the evil days come as the years roll by, and thou shalt say thou hast no pleasure in them.*

INDEX

The following references pertain only to the material in the "Exercises." For the index to the textbook proper, see page 523 of the latter.

Abstractions, E97–E114
Advertising, E145, E147
Age, E175
Aims, E17–E22
Algebra, E80, E98, E191
Allen, I. M., E210
Apperception, E158, E164–E174
Argumentation, E143
Art, E120–E123
Artistic teaching, E188
Assigning exercises, E14
Assignments, E180, E209
Association, E63–E70, E74–E81
Athletics, E118
Attention, E179
Audience, E145, E149

Batavia scheme, E196
Blackboard outline, E27, E53
Books, E216–E228
Botany, E44
Business management, E28

Cards for drill, E77
Cartoons, E186
Chemistry, E44
Cheyney, E. P., E167
Civics, E43
Classics, E130
Clubs, E118
Coherence, E52
Collecting, E182
Composition, E142–E155
Condensing course, E198
Conversational method, E229–E231
Coöperation in English, E152
Correcting, E149
Curiosity, E182

Dancing, E118
Dates, E46
Definitions, E99, E165
Democratic ideals, E17, E28
Dewey, J., E87
Direct methods, E63–E70
Discipline, E32
Dominance by teacher, E164
Drama, E119
Drill, E74–E81

Ears, moving, E56
Economy of time, E5, E28–E33
Efficiency, E19
Emotional tone, E174
Emulation, E182
Engleman, J. O., E136
English, E38, E120–E139, E142–E155
Enjoyment, E19, E117–E139
Equipment, E30
Examination, final, E232–E234
Examinations, E245–E250
Exercises, E100
Expression, E142–E155

Fiction, E124, E128, E138
Final examination, E232–E234
First-day teaching, E28
Follow-up letter, E201
Foreign language, E63–E70, E79, E175, E184
French, E57, E68, E76. *See* Foreign language and Phonetics

Galton, F., E90
General ideas, E97–E114
General science, E37, E49, E50, E101
Geography, E166
Geometry, E44, E49, E88–E89, E91
German, E28. *See* also Foreign language, Phonetics
"Goldfinch, The," E172
Golf, E122
Gouin series, E66–E69
Grading, E195

Graphing, E91, E191
Grammar, E46, E99, E103

Habits, E21
Health, E22, E253–E257
Herbartian steps, E244
History, E37, E42–E44, E46, E48, E49, E84, E87, E159, E166, E219–E221
Hohenzollerns, E251
Home study, E158, E203
Hosic, J. F., E151, E206
Humor, E4, E183

Ideals, E21
Individual differences, E4, E40, E99, E128, E190–E197, E224
Information, E22
Information blank, E9
Instincts, E176, E177–E187
Interest, E3, E21, E48, E73, E123, E177–E187
"I Shall Try" paper, E199

James, William, E254
Jefferson, Thomas, E17
Jesuits, E32

Kepler, E86

"Lady of the Lake," lessons on, E163
Laboratory, E221, E235–E240
Lally, Eleanor, E103
"Last Word, The," E251
Leadership, E17
Lesson planning, E115, E243–E244
Lessons, reports of, on vocal training, E59–E62; in problem-solving in a social science, E93–E96; on "work," E101–E103; on participles, E103–E114; on "Marmion," E130–E136; on Minos, E159–E161; on "Lady of the Lake," E163; in supervised study, E210–E214; on socialism, E219–E221; on library, E226–E228; on musical scales, E238–E240
Lewis, W. D., E151, E206
Liberal education, E18
Library, E226–E228
Literary Digest, E117, E125
Literature, E120–E139, E163
Logic, E128
Lyman, R. L., E152

Magazines, E137
"Marmion," lesson on, E130–E136
Mathematics, E30, E37, E49, E80, E166. *See also* Algebra, Geometry
McAndrews, W., E17
McConnel, J. M., E93
Measuring results, E245–E250
Miller, E. L., E151
Minos, lessons on, E159
Morality, E19
Motor control, E56–E62
Music, E118

Napoleon, E168–E171
Normal distribution, E195
Notebooks, E31

Observation, E34–E35, E63, E82, E141
Opinion versus science, E11–E13. *See also* Scientific method
Oral reports, E222–E226
Organizing material, E90
Outlining, E25
Outline of course, E156

Participles, lessons on, E103–E114
Periodicals, E71, E126, E137, E225, E228, E240
Personality, E181
Phonetics, E58, E78
Physical fitness, E253
Physics, E101, E235
Piano, E75
Pictures, E169, E184
Planning lessons, E115, E243–E244
Poetry, E122, E125
Practice, E74–E81
Practice teaching, E243–E244
Preparation, E169–E173
Problem-solving, E82–E96
Pronunciation, E57, E58, E78
Public speaking, E60
Pupil activity, E162
Purposes, E17–E22

Questioning, E241–E242

Reading, E123–E139, E216; rates of, E192–E195
Ready-made material, E65, E92
Reasoning, E82–E114, E176
Reavis, E206

Recitations, E180. *See also* Books, Textbooks
Recreation, E117, E254
Reflective thinking, E82–E114
Relative values, E45–E48
Reports, oral, E222–E226
Reviews, E26
Roll call, E29
Rough drafts, E148

Sample lessons. *See* Lessons
Seating, E29
Self-activity, E5, E73, E158–E164
Science, E44, E49, E50. *See also* Botany, Chemistry, Physics, Laboratory
Science versus opinion, E11–E13
Scientific method, E11–E13, E59, E74, E92, E146, E190, E236
Series, Gouin, E66
Service, E251
Sex hygiene, E47
Shepard, O., E172
Singing, E58–E60
Social needs, E41
Social sciences, E83, E92–E96
Socialism, E219–E221
Specialization, E252
Spencer, H., E45
Statistics, E190
Stenographic reports of lessons. *See* Lessons
Study, E15, E158, E203–E215
Subject matter, E40–E51, E180
Success, teacher's, E10
Suggestion, E88
Supervised study, E203–E215
Supplementary reading, E221
System, E6

Tact, E32
Taj Mahal, E173
Taylor, B. L., E120–E121
Tests, E23–E25, E245–E250
Textbooks, E36–E39, E217–E221
Transition in course, E156
Types of learning, E55

Verification, E90, E237
Vocal training, E58–E62
Vocational interests, E178
Vocational training, E18

Wilkins, T. R., E238
Women's clubs, E222
"Work," lesson on, E101

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